

**DRAFT
ENVIRONMENTAL ASSESSMENT/
INITIAL STUDY**

**AMERICAN RIVER COMMON FEATURES
LOWER AMERICAN RIVER FEATURES
JACOB LANE LEVEE IMPROVEMENTS
REACHES A AND B**

MAY 2008



**US Army Corps
of Engineers**



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**U.S. ARMY CORPS OF ENGINEERS
SACRAMENTO DISTRICT**

**THE CENTRAL VALLEY FLOOD PROTECTION BOARD
STATE OF CALIFORNIA**

**SACRAMENTO AREA FLOOD CONTROL AGENCY
SACRAMENTO, CALIFORNIA**

DRAFT FINDING OF NO SIGNIFICANT IMPACT

American River Watershed Common Features Project,
Lower American River Features,
Jacob Lane Levee Improvements
Reaches A and B

I have reviewed and evaluated the information presented in this Environmental Assessment/ Initial Study (EA/IS) prepared for the American River Watershed Common Features Project, Jacob Lane Improvements, Reaches A and B. The project would raise a 7,000 foot section of levee and widen a 6,400 foot section along the north bank of the American River, in the Carmichael area of Sacramento. This work would stabilize this section of the levee system to safely convey emergency releases of 160,000 cubic feet per second from the Folsom Dam to the American River.

During this review, the possible consequences of the work described in the EA/IS have been studied with consideration given to environmental, socioeconomic, cultural, and engineering feasibility. I have also considered the views of other interested agencies, organizations, and individuals. The environmental effects have been coordinated with the U.S. Fish and Wildlife Service (USFWS), the National Marine Fisheries Service, California State Historic Preservation Officer, the California Department of Fish and Game, and the Central Valley Flood Protection Board of the State of California.

Compensation to reduce the effects on the Federally listed threatened valley elderberry longhorn beetle would include planting 0.2 acres of elderberry shrubs and associated native plants at a USFWS-approved site. In addition, all areas disturbed by construction would be revegetated for erosion control. Best Management Practices (BMPs) would be implemented to reduce construction traffic conflicts and to ensure public safety in areas where construction traffic is near the project access routes, schools and residences. These compensation measures and BMPs are sufficient to reduce any potential effects to air quality, vegetation, valley elderberry longhorn beetle habitat, and Swainson's hawks to less than significant.

Based on my review of the EA/IS and my knowledge of the project area, I have determined that the proposed drain closure structure, including access routes and staging area, would have no significant, long-term effects on environmental or cultural resources. Based on these considerations, I am convinced that there is no need to prepare an environmental impact statement. Therefore, an EA and Finding of No Significant Impact provide adequate environmental documentation for the proposed action.

Date

Thomas C. Chapman, P.E.
Colonel, U.S. Army
District Engineer

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1.0 Purpose and Need for Action

1.1 Proposed Action

The U.S. Army Corps of Engineers (Corps), the Central Valley Flood Protection Board (Board), formerly the Reclamation Board, and the Sacramento Area Flood Control Agency (SAFCA) propose to strengthen the flood control levees along two reaches of the lower American River in the American River Parkway. This construction would reduce flood risk by improving the levee to meet current Corps criteria in Corps EM 1110-2-1913 for withstanding emergency releases from Folsom Dam of 160,000 cubic feet per second (cfs) with 3 feet of freeboard (equivalent to 192,000 cfs).

1.2 Location of the Project Area

The proposed work is located on the right (north) bank of the lower American River in the Carmichael area of Sacramento (Plate 1). Two reaches (Reach A and Reach B) are proposed for construction, located between the Watt Ave. Bridge and Arden Way. Reach A extends from River Mile (RM) 10.0 to RM 11.3 and has a total length of about 7,000 linear feet (LF). Reach A begins approximately 2,100 feet downstream from Estates Drive upstream to Rio Americano High School. The work in Reach A will require raising the levee an average of 1 foot in height. Reach B extends from RM 11.5 to RM 12.7 for a total length of approximately 6,400 LF. Reach B begins 400 feet downstream of Jacob Lane and terminates at Arden Way, and includes the area bordered by the local Sheriff's Training Facility. The work in Reach B will require widening the levee by an average of 4 to 6 feet.

1.3 Background and Need for Action

The project levees in this area of the American River were originally constructed by the Corps in 1955-56 which coincided with the construction of Folsom Dam. The levees were designed to contain a controlled flow of 115,000 cfs from Folsom Dam.

The American River Common Features Project (Common Features Project) is a cooperative effort among local, State of California, and Federal agencies to increase the level of flood protection for the city of Sacramento and surrounding areas. The Common Features Projects encompass several actions under two authorizations (Water Resources Development Act (WRDA) 96 and WRDA 99) located along both banks within the lower American River Parkway as well as sections along the Sacramento River. They have been constructed by the U.S. Army Corps of Engineers (Corps) and the Reclamation Board (Board) of the State of California, and maintained by the American River Flood Control District (ARFCD).

In March 1996, the Corps and the Board completed the Supplemental Information Report (SIR) and Supplemental Environmental Impact Statement/Environmental Impact Report (SEIS/EIR) for the American River Project. The SIR was undertaken to develop supplemental information to the American River Watershed Investigation, April 1991.

The SIR evaluated an array of alternatives to provide increased flood control to the Sacramento area. The Chief of Engineers, in his June 27, 1996 report, deferred a decision on a comprehensive flood control plan. However, the Chief did recommend that the features common to all three proposed plans be authorized as the first component of a comprehensive flood control plan for the Sacramento area. Although the Federal Administration did not make a recommendation to Congress, these “common features” were included in the Water Resources Development Act (WRDA) of 1996.

Major storms in northern California caused record floodflows in 1986, 1995, 1997, 1998, and 2005 in the American River Basin. Outflows from Folsom Reservoir, together with high flows in the Sacramento River, caused water levels to rise above the safety margin for the levees protecting the Sacramento area. These major storms raised concerns over the adequacy of the existing flood control system, which led to a series of investigations of the need to provide additional protection for Sacramento. Subsequently, further modifications of the American River Common Features Project were authorized in the WRDA of 1999. In 1998 the Corps began work on features authorized under WRDA 1996, which included slurry wall construction in Reach A of the project area. Further slurry wall construction was authorized in WRDA 1999 for Reach B, and installation has been completed.

In 2001 the Corps performed a geotechnical reevaluation on the project area and released its findings in a report titled “American River WRDA 99 Common Features Right Bank Levee Strengthening Near Jacob’s Lane”. In this report it was determined that the levee in Reach A could not pass an emergency release of 160,000 cfs with 3 feet of freeboard (equivalent to 192,000 cfs) without putting excessive pressure on the levee. This report also noted that the levee in Reach B did not have a sufficient width to provide the necessary structural stability. Similarly, the levee crown was not sufficiently wide enough for levee maintenance and safe flood fighting. The work currently proposed to be constructed in these reaches will help resolve these problems and bring the levees in the project area up to current standards.

1.4 Authority

The proposed levee work is part of the ongoing American River Watershed Common Features project. Authorization for the Common Features project is provided by Section 101 of Water Resources Development Act of 1996 (WRDA) (Public Law 104-303) and Section 366 of WRDA 1999 (Public Law 106-53).

1.5 Purpose of the EA/IS

This Environmental Assessment/Initial Study (EA/IS) (1) describes the existing environmental resources in the project area, (2) evaluates the environmental effects of the alternatives on these resources, and (3) identifies measures to avoid or reduce any effects to less than significant. This EA has been prepared in accordance with the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA).

1.6 Decisions Needed

The District Engineer, commander of the Sacramento District, must decide whether or not the proposed levee work qualifies for a Finding of No Significant Impact (FONSI) under NEPA or whether an EIS must be prepared. Also, the CVFPB must decide if the proposed action qualifies for a Mitigated Negative Declaration under CEQA or whether an EIR must be prepared.

2.0 Alternatives

2.1 Alternatives Eliminated from Further Consideration

The topographic and metropolitan features of the project area limit alternative project options. The project area is situated in a narrow corridor between the American River Parkway and Sacramento area neighborhoods, schools, and other residential features. The purpose of the project is to protect these residential areas from flood damages by improving the levee to meet current Corps standards.

Rather than raising and widening the levees, other alternatives that could be considered include setting back the levee in order to widen the flood plain. This alternative is not a feasible option because of the current proximity of the levee to the local residential area. There is currently no land available within the project area for constructing a levee set-back.

Another option includes protecting the residential properties themselves to prevent flood damages. Considering the high population within the flood plain, and the number of houses that would need to be flood-proofed, this alternative is considered extremely costly and was eliminated from further consideration.

2.2 No Action Alternative

Under this alternative, the Corps would not participate in improving the levees in the Reach A or Reach B. Levee conditions would remain the same and the levees would not meet the current standards in EM 1110-2-1913 for Corps project levees. The north bank levee in Reach A and Reach B would not be in compliance with current Corps requirements for levee height and stability to safely pass an emergency release of 160,000 cfs with 3 feet of freeboard (192,000 cfs). In Reach B, there would be limited space on the levee crest in instances of flood fighting and maintenance activities.

2.3 Construct Levee Improvements

This section describes the proposed action at both Reaches A and B. This includes a discussion of features, construction details, staging and stockpile area, borrow and disposal sites, construction workers and schedule, and operation and maintenance for each reach.

2.3.1 Reach A

Features. The work at Reach A would involve raising the levee by about 1 foot for a distance of approximately 6,300 LF. Current average levee height is approximately 15 feet. The levees are currently designed to hold a flow of 160,000 cfs, but do not have the necessary freeboard to protect against wind and wave action. Current levee standards require that levees on the American River be capable of safely passing an emergency release of 160,000 cfs, plus three feet of freeboard, for a total flow capacity of 192,000 cfs. This levee raise will bring the levee up to standards, and allow the river to pass an emergency release of 160,000 cfs, plus three feet of freeboard.

Construction Details

Access and Staging. The Jacob Lane access point will be the upstream access to Reach A. The Wilhaggin pump station will be the downstream access to the project reach. The maintenance road at this location will allow access to American River Drive. Although the direction of the haul route has not yet been determined, trucks will enter and exit the reach at these two points. American River Drive and Fair Oaks Boulevard will be the primary thoroughfares for trucks to access Watt Avenue and Highway 50 (Plate 2).

The primary staging area will be located in Reach B, however, there could be a second staging area located in the area between Reaches A and B. In this segment, there is a flat, open grasslands area on the waterside of the levee between the levee and the bike trail. Construction materials, equipment, topsoil and excess material could be temporarily stored in the staging area during the construction period.

Site Preparation. Before the start of construction, all construction areas would be fenced off to limit access, including the staging area. Chain link fencing would be installed on the land side of the project site adjacent to the residential property lines for site safety and security. In any areas where the bike trail is in the vicinity of the project footprint, concrete barriers would be installed along the edge of the trail in order to separate recreationists from the construction area. All trees and elderberry shrubs in the construction area would be tagged and fenced off.

Construction of the levee raise would require that 3 to 6 inches of the levee crown and waterside slope be cleared and grubbed of all vegetation and surface material. This would total approximately 6,070 cubic yards (cy) of removed material and would be disposed by the contractor at an approved site.

Construction of Levee Raise. Construction on Reach A could begin as early as the fall of 2008, or as late as the Spring of 2009. The duration of the construction period for each reach should last approximately one to two months. The directional flow of the construction activities has not yet been determined, however, after the entire reach has been cleared and grubbed, the remaining earthwork would likely be conducted in 1000

foot segments. This phased approach is intended to minimize disruptions in the parkway and still allow controlled recreational access at Estates Drive.

In order to “key-in” the new soil for the levee raise, a total of approximately 33,000 cy of soil would be excavated from the crown and side slopes of the levee. The levee would then be reconstructed, using a combination of the excavated soil, and approximately 27,000 cy of borrow material. The new soil material will be brought in from local area borrow sites, delivered by dump truck on the top of the levee and then redistributed. The combination of the borrow soil and the excavated material would then be compacted to reform the levee to Corps standards. Once levee construction is completed, aggregate base material would to be reinstalled on the levee surface to provide for the maintenance road.

Restoration and Cleanup. Once the levee work is completed, all equipment and excess materials would be transported offsite via neighborhood streets and regional highways. The barren earthen and levee slopes would be reseeded with native grasses to promote revegetation and minimize soil erosion. The access ramps and staging areas would also be restored to pre-project conditions and reseeded. Any damage to the residential streets and bike trails from construction activities would be repaired. Finally, the work sites and staging areas would be cleaned of all rubbish, and all parts of the work area would be left in a safe and neat condition suitable to the setting of the area.

Borrow and Disposals Sites.

The project in this reach will require approximately 27,000 cy of new soil from local borrow sites. It is reasonable to assume that the material will be acquired from sites along the Highway 50 corridor within 10 to 15 miles of the project site. Similarly, it is assumed that disposal sites for excess materials or spoils will be located within 10 to 15 miles of the project site. The contractor is responsible for determining the location of borrow and disposal sites, however, they must be approved by the Corps.

The haul route will use Fair Oaks Boulevard and Jacob Lane to access the upstream end of the reach and American River Drive to access the downstream end of the reach. Both Fair Oaks Boulevard and American River Drive will allow access to Watt Avenue and Highway 50.

Construction Workers and Schedule. An estimated 10 to 20 workers would be onsite each day during construction. These workers would access the area via regional and local roadways, and park their vehicles in the staging area located at the upstream end of Reach B. Construction hours would be limited daily to the hours from 6:00 a.m. to 8:00 p.m. Monday through Saturday, and 8:00 a.m. to 6:00 p.m. on Sundays. Construction on Reach A could begin as early as the fall of 2008, or as late as the Spring of 2009. The duration of the construction period for each reach should last approximately one to two months.

Operation and Maintenance. After construction is completed, responsibility for the project would be turned over to the Reclamation Board, the non-Federal sponsor for the project. This would include operation, maintenance, repair, rehabilitation, and replacement of all project features. The Reclamation Board would transfer these responsibilities to SAFCA, who would contract the American River Flood Control District (ARFCD) to operate and maintain the levee. Regular maintenance activities include mowing and spraying the levee slopes, controlling rodents, clearing the maintenance road, and inspecting the levee.

Proposed levee cross sections for Reaches A and B are at Plate 4.

2.3.2 Reach B

Features. The work at Reach B would involve widening the levee by approximately 4 feet to 6 feet for a distance of about 6,400 LF. Currently the average width of the levee crest ranges from 14 to 16 feet. Widening the levee to a crest width of 20 feet is required in order to meet minimum cross section standards specified in Corp EM 1110-2-1913. The waterside slope already exceeds the Corps requirement of 3 horizontal to 1 vertical, so the widening of the levee crown and slope will not exceed the current levee toe in most areas of the project. A wider crest is also needed for levee inspection and flood fighting activities.

Construction Details

Access and Staging. The entrance at Arden Way will provide access at the upstream end of Reach B. Jacob Lane will be the downstream access to the reach. The staging area for Reach B would be located in William Pond Park beyond the entrance at Arden Way. It consists of primarily open grassland with small areas that have been disturbed by human activity. Construction materials, equipment, spoils and excess material would be stored in the staging area during the construction period. It would also provide a parking location for construction workers (Plate 3).

Site Preparation. Before the start of construction, all construction areas would be fenced off to limit access, including the staging area. Chain link fencing would be installed on the land side of the project site adjacent to the residential property lines for site safety and security. In any areas where the bike trail is in the vicinity of the project footprint, concrete barriers would be installed along the edge of the trail in order to separate recreationists from the construction area. Approximately 40 large eucalyptus trees located on the waterside of the levee at the upstream end of the reach will be removed, along with 1 elderberry shrub, during site preparation. The removal of the trees will also require the trimming of one shrub, while a third shrub will be protected in place. A large elderberry shrub located on the landside of the levee across from the Sheriff's training facility will need to be trimmed and 12 shrubs located near the waterside toe on the downstream end near Jacob Lane, will be protected in place with fencing or concrete barriers.

Construction of the levee raise would require that 3 to 6 inches of the levee crown and waterside slope be cleared and grubbed of all vegetation and surface material. This would total approximately 3,700 cubic yards (cy) of removed material and would be disposed by the contractor at an approved site.

Construction of Levee Widening. Construction on Reach B could begin as early as the fall of 2008, or as late as the spring of 2009. The duration of the construction period for each reach should last approximately one to two months. The directional flow of the construction activities has not yet been determined, however, after the entire reach has been cleared and grubbed, the remaining earthwork would likely be conducted in 1000 foot segments. This phased approach is intended to minimize disruptions in the parkway and still allow controlled recreational access at Harrington Drive and access to the Sheriff's Training Facility at River Walk Way.

In order to "key-in" the new soil for the levee raise, a total of approximately 12,300 cy of soil would be excavated from the crown and side slopes of the levee. The levee would then be reconstructed to a consistent 20 foot crest for the full length of the reach, using a combination of the excavated soil, and approximately 13,000 cy of borrow material. The new material will be delivered by dump truck on the top of the levee and then redistributed. The combination of the borrow soil and the excavated material would then be compacted to reform the levee to Corps standards. Once levee construction is completed, aggregate base material would to be reinstalled on the levee surface to provide for the maintenance road.

Restoration and Cleanup. Once the levee work is completed, all equipment and excess materials would be transported offsite via neighborhood streets and regional highways. The barren earthen and levee slopes would be reseeded with native grasses to promote revegetation and minimize soil erosion. The access ramps and staging areas would also be restored to pre-project conditions and reseeded. Any damage to the residential streets and bike trails from construction activities would be repaired. Finally, the work sites and staging areas would be cleaned of all rubbish, and all parts of the work area would be left in a safe and neat condition suitable to the setting of the area.

Borrow and Disposal Sites.

The project in this reach will require approximately 13,000 cy of borrow material. It is reasonable to assume that the material will be acquired from sites along the Highway 50 corridor within 10 to 15 miles of the project site. Similarly, it is assumed that disposal sites for excess materials or spoils will be located within 10 to 15 miles of the project site. The contractor is responsible for determining the location of borrow and disposal sites, however, they must be approved by the Corps.

Construction Workers and Schedule. An estimated 10 to 20 workers would be onsite each day during construction. These workers would access the area via regional and local roadways, and park their vehicles in the staging area located at Arden Way.

Construction hours would be limited daily to the hours from 7:00 a.m. to 6:00 p.m. Monday through Saturday. Construction on Reach A could begin as early as the fall of 2008, or as late as the spring of 2009. The duration of the construction period for each reach should last approximately one to two months.

Operation and Maintenance. After construction is completed, responsibility for the project would be turned over to the Reclamation Board, the non-Federal sponsor for the project. This would include operation, maintenance, repair, rehabilitation, and replacement of all project features. The CVFPB would transfer these responsibilities to SAFCA, who would contract the American River Flood Control District (ARFCD) to operate and maintain the levee. Regular maintenance activities include mowing and spraying the levee slopes, controlling rodents, clearing the maintenance road, and inspecting the levee.

3.0 Affected Environment and Environmental Consequences

This section describes the environmental resources in the project area, as well as any effects of the alternatives on those resources. When necessary, mitigation measures are also proposed to avoid, reduce, minimize, or compensate for any significant effects. Since the existing conditions and construction details differ for both Reaches A and B, they are evaluated separately for most resources.

3.1 Environmental Resources Not Considered in Detail

Initial evaluation of the effects of the project indicated that there would likely be little to no effect on several resources. These resources are discussed below to add to the overall understanding of the project area.

3.1.1 Climate

The climate of the area is characterized by cool, wet winters and hot, dry summers. The average yearly temperature for Sacramento is 61° Fahrenheit (F) with an average high of 74°F and an average low of 48°F. The hottest months are June through September and the coldest months are November through January (Weatherbase 2008).

Most of the seasonal rainfall occurs in two or three of the winter months. Precipitation ranges from 16 to 20 inches on the valley floor. Annual precipitation occurs almost entirely during the winter storm season (November to April). The prevailing wind direction in the Lower American River basin is from the south and southeast from April to September and from the north from October to March.

The project would have no effect on the climate in the project area.

3.1.2 Topography, Geology, and Soils

The lower American River area consists of low rolling foothills and flood plain areas near the confluence with the Sacramento River. The floor of the Sacramento Valley is generally flat and open with little natural relief. Flood control levees provide the only significant topographic relief in or near the project area.

Geologic formations underlying the Sacramento Valley include igneous, metamorphic, and sedimentary rock types, which range in age from precretaceous to recent. The valley is situated on vast alluvial deposits that have slowly accumulated over the last 100 million years. The materials have been derived from the surrounding uplands; transported by major streams; and deposited in successive clay, silt, sand, and gravel layers on the valley floor.

The lower American River area is part of the Great Valley Geomorphic province of California. The broad valley was filled with erosion debris that originated in the surrounding mountains. Most soils in the area are recent alluvial flood plain soils consisting of unconsolidated deposits of clay, silt, and sand that occur as flood plain deposits. Fresh alluvium is deposited with each floodflow.

Sedimentation rates in the American River basin and adjacent river basins are relatively low due to limited development, the general shallowness of soils, a low rate of upstream erosion, and numerous containment basins. Sedimentation in the river is also controlled by Folsom and Nimbus Dams. Estimates of the annual sediment yield range from 0.1 to 0.3 acre-feet per square mile. As a result, the channel is in a state of degradation and sedimentation is not causing a reduction in channel conveyance or levee stability. Since the completion of Folsom Dam in 1955, only about 2 percent of the reserved sediment storage space in the reservoir has been filled.

The work proposed in both Reaches A and B primarily consists of earth work, as the surface of the levee would be cleared and grubbed of the immediate surface material. All suitable excavated soil material would be reused in the project, and any unsuitable material would be disposed offsite at a commercial landfill. Soil material would be brought to the site to widen the levee crown and increase the height of the levee. Areas temporarily disturbed by construction would be returned to pre-project conditions after construction. Barren areas would be seeded with native grasses to reduce the potential for erosion.

The change in levee width and levee height is not a significant change to the project area topography. The project would not affect project area geography. The removal or import of soil material for the levee construction would not significantly affect the soil condition in the project area. The project would not alter flows within the channel, nor would it promote sedimentation downstream. The levee widening in Reach B would have no effect on normal river flows, as the project levee in this area is approximately 500 feet from the river. The post project levee foot print would only

remove approximately 1 acre of area within the floodway and would have a negligible effect on flows even during an emergency release.

3.1.3 Land Use and Socioeconomics

A detailed discussion of socioeconomics (population, housing, and the economy) and land use are presented in the 1996 SEIS/EIR. The project area is located within the Sacramento metropolitan area. The predominant land use in the area is residential, with some commercial, industrial, and public land also included in the project area. The project would not result in any long-term changes in land use or socioeconomics in the area. The residential development adjacent to the levee in both reaches would remain the same, and the staging areas would be returned to pre-project uses after construction.

As directed in Executive Order 12898, all Federal agencies must identify and address adverse human health or environmental effects of their programs, policies, and activities on minority and low-income populations. There are no minority, or low-income, populations in the project area. All nearby residents would benefit equally from the project.

The construction of the levee improvements would have a minimal impact on land use within the parkway. Although all of the levee raising in Reach A and most of the levee widening in Reach B will occur on the waterside of the levee, the waterside slope of the levee in both reaches currently exceeds the Corps standard of 3 horizontal to 1 vertical (3:1). The rebuilding of the waterside slope to accommodate the raising the levee in Reach A and widening it in Reach B will not extend the current location of the levee toe. The waterside levee maintenance road will then be cleared to reestablish its' 15 foot width. The implementation of the project will require a negligible, if any, conversion of parkway land.

3.1.4 Fisheries

Fisheries and fish habitat is associated with the American River and vegetation along its shoreline. Construction would take place on the levee crown and the approximate 20-foot area adjacent to the waterside toe of the levee. The closest the American River gets to the project area is approximately 150 feet. There would be no construction in or near the American River. The contractor would be required to develop and submit a Storm Water Pollution Prevention Plan (SWPPP) to minimize the potential for soil or contaminants to enter the river. Erosion/sediment controls such as hay bales, straw wattles and silt fencing would be utilized to prevent soil from entering the river. Water trucks will be used to for dust suppression along all areas of disturbed soil and along the haul route on the top of the levee. The contractor will not be allowed to store fuels, lubricants or other potential hazardous substances on site. If equipment is to be refueled on site, the contractor will take measures to avoid and contain any spills. The contractor will be required to develop and submit a Spill Prevention and Countermeasure Plan (SPCP) prior to initiating construction activities. The SWPPP and SPCP must be

approved by the Corps. No riparian habitat would be affected by construction. This project would have no effect on fisheries or its associated habitat.

3.1.5 Hazardous and Toxic Waste

In June 1997, an environmental site assessment was conducted for the lower American River. The assessment study area in the lower American River extended from the confluence of the Sacramento River to the G.M. Goethe Park area. Additional information gathered during the assessment included a database search and interviews, all of which revealed no apparent HTRW contamination within the project area. There have been no major changes of land use in the project area since these surveys were conducted, therefore there would be no impacts on HTRW through the construction of this project.

3.2 Recreation

3.2.1 Existing Conditions.

The project area is located along the right bank of the lower American River within the American River Parkway. The American River Parkway consists of a 5,000-acre regional park along the riparian corridor stretching from the confluence with the Sacramento River upstream to Folsom Lake. The Parkway is valuable regional resource which attracts bicyclists, runners, walkers, horseback riders and rafters. The Sacramento County Department of Regional Parks (County Parks) is the agency with primary responsibility over the American River Parkway.

The primary recreational feature within the Parkway which could be affected by the project is the Jedediah Smith Recreation Trail, which provides bicycle, pedestrian, and equestrian trails from Discovery Park to Folsom Lake. The trail also connects with the Sacramento River Trail and Old Sacramento State Historic Park, and many people use it to commute by bicycle into Downtown Sacramento. The levee crown is covered with a compacted aggregate base material that is also used for pedestrian recreational activities.

In Reach A, there is no vehicular access for recreationists into the American River Parkway. There are three formal locations in Reach A where pedestrians and bikers may access the Jedediah Smith Recreation Trail. The first of these trail access points is at Rio Americano High School at the upstream end of Reach A. The second is approximately halfway between the high school and Estates Drive. The third is at the termination of Estates Drive into the Parkway. There are also two informal trail access points. These trail access points are man made wear spots where the trail has been repeatedly accessed in lieu of the official trail access locations. These informal access points are from Regency Circle, between Reaches A and B, and at the intersection of Ashton Drive and North River Way within Reach A.

There are two vehicular access routes into the Parkway for recreationists in Reach B: at the upstream edge of the project area at Arden Way, and downstream from the Sheriff's training facility at Harrington Way. At both access areas, paved roads cross the

levee, ending in parking lots within the reaches of the Parkway. The recreation trail, as well as picnic areas and other recreational features can be accessed at both of these vehicular access routes. The Parkway access at Harrington Way is also a boat launch point onto the American River. At the downstream end of Reach B there is a recreation trail access point at Jacob Lane, however, there is no vehicular access for recreationists at this location. Restricted access points are shown on Plate 2.

The Sheriff's Training Facility within the Parkway is accessed from the intersection of River Walk Way and the levee within Reach B. There is no vehicular access for recreationists at this location, however, there is Recreation Trail access at this location for the bike trail.

In the upstream edge of Reach B at Arden Way within the Parkway is the American River Parkway Foundation Volunteer Center. This one-story, 1800-square foot building houses the Parkway Foundation's offices, and is used to facilitate volunteer coordination efforts. Some activities provided at this facility include volunteer training workshops, information for Parkway visitors, and meeting space for the nonprofit associations that support the Parkway (ARPF 2008).

3.2.2 Environmental Effects

Basis of Significance. Effects to recreational resources are considered significant if construction would result in any of the following:

- Eliminate or severely restrict access to recreational facilities and resources.
- Result in substantial long-term disruption of use of an existing recreation facility.

No Action Alternative. Under this alternative, the levee improvement project would not be constructed, therefore there would be no effects on recreation. The bike trail and levee roads would remain open, and there would be no changes to the project area.

Construct Levee Improvements.

Reach A. Construction of the levee raise in Reach A would have short-term effects on recreational use in the American River Parkway. The road on the top of the levee would be closed to pedestrian access during the 2 month construction period. There would be no effects on the equestrian trails within the American River Parkway.

The primary impact on recreation would be effects on the Jedediah Smith Recreation Trail. There is a stretch of the bike trail from Estates Drive upstream towards the termination of Crondall Drive in which the bike trail boundaries are within the project footprint. In order to limit the effects on the bike trail and allow the trail to remain open,

concrete barriers would be temporarily installed adjacent to the edge of the bike trail. The barriers will protect the bike trail and its users from the construction activities. The opposite lane of the bike trail will be temporarily widened with asphalt and lane stripes and markings will be repainted. When the construction is completed the bike trail will be restored to its' preconstruction condition.

During the construction period pedestrian access will be limited to Estates Drive and will be controlled by a flagman when construction traffic is passing. The following pedestrian access points will be fenced off and closed during construction:

- Between Reaches A & B (if construction simultaneous) from upstream end of Regency Circle to the levee
- Multiple access points from the football field and basketball courts at Rio Americano High School
- Ashton Drive access
- Just upstream from the intersection of Wilhaggen Drive and Crondall Drive to the levee

Reach B. Construction of the levee improvements in Reach B would have short-term effects on recreational use in the American River Parkway. The road on the top of the levee would be closed to pedestrian access during the 2 month construction period. The project would not restrict access to the American River Parkway itself, however construction vehicles would be present in staging areas near the Parkway access parking lot at Arden Way. The access roads in and out of the Parkway would be used as haul routes for trucks providing borrow material resulting in increased traffic along the entry routes used by recreationists. At times, traffic control may be necessary for negotiating truck entry to the levee crown with recreationist vehicles entering the Parkway.

The primary impact on recreation would be effects on the Jedediah Smith Recreation Trail. There are three locations where the footprint of the construction area would overlap with the bike trail. These impact areas are at the intersections of the bike trail with the levee at Jacob Lane, Harrington Way, and River Walk Way. In order to allow the bike trail to remain open during construction activities, a section of the bike trail at Harrington Way will have one lane temporarily narrowed using concrete barriers. The installation of the concrete barriers may narrow the bike lane by approximately 12 to 18 inches.

During the construction period pedestrian access will be limited to Harrington Way, River Walk Way, and Arden Way. Traffic control will be required to maintain safety at these access points. Trail and Parkway access will be closed at Jacob Lane. This access closure will be necessary due to the high volume of trucks that will be using Jacob Lane as their haul route in and out of the project area for both reaches.

3.2.3 Mitigation

In order to mitigate for effects to the bike trail, measures would be taken to keep the public informed of the situation. Coordination will be done with local bike groups in order to keep them informed of the effects to the bike trails, and to ensure the least possible impacts to trail use. To ensure public safety, warning signs and signs restricting access would be posted before and during construction, as necessary. Detour routes would be clearly marked, and fences erected in order to prevent access to the project area.

In areas where recreational traffic intersects with construction vehicles, traffic control will be utilized in order to maintain public safety. Public outreach will be conducted through mailings, posting signs, coordination with interested groups, and meetings, if necessary, in order to provide information regarding changes to recreational access in and around the Parkway.

The staircases on both slopes of the levee located near the Ashton access in Reach A are likely to be impacted by the construction activities. After the project has been completed, the staircases will be repaired or reconstructed to their pre-project condition.

Any effects to recreation would be temporary and considered less than significant. Therefore, no further mitigation would be required.

3.3 Vegetation and Wildlife

3.3.1 Existing Conditions

There are 5 different types of vegetation communities in the project area: ruderal herbaceous, ornamental landscaping, developed areas, riparian forest and scrub, and open water (American River). These communities and associated wildlife are described below. Sensitive native communities are considered native-diverse communities that are regionally uncommon or of special concern to Federal, State, and local resource agencies. The riparian forest and scrub, and open water habitats are considered sensitive native community. Due to their local significance native oak trees are separately addressed.

Ruderal Herbaceous. Ruderal herbaceous community is a native community that occurs in the project area. This community is located on the levee slopes and landside area between the levee and fences of the nearby residential homes. Areas of ruderal herbaceous community also occur in the waterside area between the levee and the American River.

This community is dominated by annual grasses such as ripgut brome (*Bromus diandrus*), wild oat (*Avena fatua*), and forbs including horsetail (*Equisetum hyemale*). Ruderal herbaceous community provides cover and foraging habitat for resident and migratory songbirds, small mammals, and reptiles.

The ruderal herbaceous community within the project area is predominantly limited to the grasses on the waterside slopes of the levee. The grasses occur as a result of restoration from previous levee projects and they are mowed as part of the maintenance program by ARFCD to reduce wildfire danger.

Ornamental Landscape. Ornamental landscape community is a nonnative community that occurs within the project area primarily near residential homes, the police training facility, and Rio Americano High School. Ornamental landscape community also includes the high school sports complex. Most of the vegetation in this community is nonnative vegetation used to landscape lawns, backyards, and recreation fields. Vegetation type, height, and volume are managed by landowners and maintenance personnel at the school and training facility. Some of this vegetation is trimmed by ARFCD while performing maintenance along the landside easement. This community provides nesting, cover, and foraging habitat for residential and migratory songbirds, small mammals, and small reptiles.

Developed Areas. Nonnative communities occur in areas developed for urban use in the project area. Developed areas include sidewalks, roadways, buildings, driveways, parking lots, and recreation trails. This community provides little to no habitat for wildlife, and has little to no vegetation and ground cover.

Riparian Forest and scrub. Riparian forest and scrub is a native community that occurs in the project area. This community consists of forested areas and underbrush habitat along the American River. This community includes native and nonnative trees, shrubs, vines, and brush in a narrow band along the river.

Open Water. The American River is located 150 to 500 feet south of Reaches A and B and is well outside the construction footprint. There are no wetlands in the project area.

Native Oak Trees. The Sacramento County Ordinance, Chapter 19.12, Tree Preservation and Protection (Oak tree ordinance), regulates the removal or disturbance to all species of oak trees native to Sacramento County. These species include valley oak, interior live oak, blue oak, oracle oak, and black oak. The ordinance applies to any native oak tree, and there are 73 native oak trees in the project area. Typically, only trees 6 inches in diameter at breast height (dbh), or greater, are protected. However, during removal of the eucalyptus trees measures will be taken to protect as many viable specimens as possible.

The Policies section of the American River Parkway Plan addresses the removal of non-native vegetation and the planting of native vegetation, as follows:

2.2.3 Non-native trees and shrubs shall be removed in accordance with a long-range phasing plan to be approved by the Recreation and Parks Commission except as noted in the area plans, and with the exception of existing golf courses. Priority shall be

given to removal of those exotics that compete with natives, such as, but not limited to, pampas grass, eucalyptus, and pyracantha.

2.2.2 Native plants shall be reintroduced in areas of their natural occurrence that have been disturbed by construction, past gravel mining and agricultural activity, except in sites of human historical value.

The removal of the eucalyptus trees and planting of native oaks trees, associated with the project, are consistent with the Parkway policies.

3.3.2 Environmental Effects

Basis of Significance. A project would significantly affect vegetation and wildlife if it would: (1) significantly reduce the amount of native vegetation and wildlife habitat in the project area to a point that native wildlife could not live or survive in the project area, or (2) permanently remove or disturb sensitive native communities.

No Action. Under the No Action alternative, the levees in both reaches would continue to be maintained by local levee maintenance districts. Maintenance activities typically include mowing and spraying the levee slopes to regulate vegetation growth. Under this alternative the proposed project would not be built. There would be no change to the native vegetation or wildlife in the project area.

Construct Levee Improvements

Reach A. Several trees within the mitigation area at the upstream end of Reach A (RM 10.2) will require minimal trimming where tree limbs overhang the waterside slope of the levee. The branches will be cut back enough to avoid the excavator causing additional damage to the trees

Reach B. Approximately 40 non-native eucalyptus trees located adjacent to the waterside toe of the levee at the upstream end of the reach will be removed. Although the trees would not be directly affected by the project, the trees have been a long-term nuisance to County Parks, requiring frequent cleanup after storm events. County Parks has requested that they be removed as a project activity and will participate along with the Corps in coordinating mitigation.

One cottonwood tree located near the current waterside levee toe at the downstream end of the reach near Jacob Lane will be removed.

3.3.3 Mitigation

The eucalyptus trees that will be removed will be replaced with native tree species, such as valley oaks, that will enhance the quality of the environment of the parkway. Mitigation will follow ratios that will be coordinated with the U.S. Fish and

Wildlife Service under the Fish and Wildlife Coordination Act. The mitigation will be conducted in the same area where the eucalyptus trees are removed.

The loss of the non-native eucalyptus trees is not considered a significant effect. Although there will be a temporary loss of habitat, there is considerable higher value habitat located in the adjacent parkway area and the mitigation will also grow into high value habitat in the parkway.

3.4 Special Status Species

3.4.1 Existing Conditions

Regulatory Setting. Certain special status species and their habitats are protected by Federal, State, or local laws and agency regulations. The Federal Endangered Species Act (FESA) of 1973 (50 CFR 17) provides legal protection for plant and animal species in danger of extinction. This act is administered by the United States Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS). The California Endangered Species Act (CESA) of 1977 parallels FESA and is administered by the California Department of Fish and Game (CDFG). Other special status species lack legal protection, but have been characterized as “sensitive” based on policies and expertise of agencies or private organizations, or policies adopted by local government. Special-status species are those that meet any of the following criteria:

- Listed or candidate for listing under the Federal Endangered Species Act of 1973 (50 CFR 17).
- Listed or candidate for listing under the California Endangered Species Act of 1977.
- Nesting bird species and active nests of birds listed under the Migratory Bird Treaty Act.
- Species listed in the Bald and Golden Eagle Protection Act.
- Fully protected or protected species under stated DFG code.
- Wildlife species of special concern listed by the DFG.
- Plant species listed as Rare under the California Native Plant Protection Act.
- Plant species listed by the California Native Plant Society.
- Species protected by local ordinances such as the Sacramento County Ordinance, Chapter 19.12, Tree Preservation and Protection.
- Species protected by goals and policies of local plans such as the American River Parkway Plan, which includes anadromous and resident fishes, as well as migratory and resident wildlife.
- Essential Fish Habitat listed under the Magnuson-Stevens Act.
- Essential Fish Habitat is defined in the Magnuson-Stevens Act as “. . . those waters and substrate necessary to fish for spawning, breeding, feeding, or

growth to maturity.” The act requires that Federal agencies consult with the National Marine Fisheries Service when any activity proposed to be permitted, funded, or undertaken by a Federal agency may have adverse effects on designated Essential Fish Habitat.

3.4.2 Special Status Species Evaluation

A list of Federally listed and candidate species, and species of concern that may be affected by projects in USGS quads Carmichael and East Sacrament was obtained on January 24, 2008 via the FWS website and updated on April 28. In addition, a search of the California Natural Diversity Database (CNDDDB) conducted on February 1, 2008 indicated that there were no reported occurrences of the federal or state listed species in the project reaches. The USFWS and CNDDDB lists are included in Appendix A. However, elderberry shrubs (*Sambucus sp.*) were identified in both reaches. Although the site is not designated as critical habitat for the valley elderberry longhorn beetle (VELB) (*Desmoceros californicus dimorphus*), the shrubs are the sole host plant for the beetle. The FWS conducted an elderberry survey at both reaches on March 31 and April 4, 2008. A subsequent site visit by Corps and USFWS personnel on April 28 observed a male VELB on elderberry shrub #4 in Reach B. The sighting will be entered into the CNDDDB.

Special-status species that were not identified as occurring or having habitat in the project area are not discussed further in this document. The following federal and state listed terrestrial special-status species were identified as having the potential to occur in the vicinity of the project area and be impacted by construction activities:

- Coopers Hawk (State Species of Concern);
- Swainson’s Hawk (State Threatened);
- Valley elderberry longhorn beetle (Federal Threatened); and
- White-Tailed Kite (CDFG Fully Protected).

Valley Elderberry Longhorn Beetle. The Valley elderberry longhorn beetle (VELB; *Desmocerus californicus dimorphus*) is endemic to the riparian habitats in the Sacramento and San Joaquin Valleys where it resides on elderberry (*Sambucus spp.*) plants. The beetle's current distribution is patchy throughout the remaining riparian forests of the Central Valley from Redding to Bakersfield (USFWS 1984). The beetle is a pith-boring species that depends on elderberry plants during its entire life cycle. Throughout its range, the beetle is estimated to inhabit only about 10 percent of all suitable elderberry shrubs. Although a recent review of the beetle’s status by the USFWS recommends the species for delisting, such action has not yet been finalized.

The Parkway, with an abundance of elderberry shrubs in a well-connected corridor, provides high quality habitat for the VELB. Approximately 36 elderberry shrubs were identified along Reaches A & B during biological surveys conducted on March 31

and April 4. It is assumed that many more elderberry shrubs exist in this section of the parkway, however only those shrubs located within 100 feet of the project area were surveyed. The project area is not located within critical habitat.

White-tailed Kite. White-tailed kite (*Elanus leucurus*) is a common to uncommon, yearlong resident in coastal and valley lowlands and is rarely found away from agricultural areas. However, it does inhabit herbaceous and open stages of most habitats, mostly in cismontane California. The main prey of white-tailed kite is voles and other small, diurnal mammals, but it occasionally preys on birds, insects, reptiles, and amphibians. White-tailed kite forages in undisturbed, open grasslands, meadows, farmlands and emergent wetlands. Nests are made of loosely piled sticks and twigs and lined with grass, straw, or rootlets and placed near the top of a dense oak, willow, or other tree stand; usually 6-20 m (20-100 ft) above ground. Nests are located near open foraging areas in lowland grasslands, agricultural areas, wetlands, oak-woodland and savannah habitats, and riparian areas associated with open areas. White-tailed kite are recorded as occurring in several locations along the American River and the riparian habitat in the vicinity of the project area provides suitable nesting habitat for this species. The nearest record of nesting white-tailed kite in CNDDB was recorded on March 13, 1988 and is located a few hundred feet northeast of the project area along the American River.

Swainson's hawk. Swainson's hawk (*Buteo swainsoni*) is an uncommon breeding resident and migrant in the Central Valley, Klamath Basin, Northeastern Plateau, Lassen County, and the Mojave Desert. Swainson's hawk breeds in stands with few trees in juniper-sage flats, riparian areas, and in oak savannah in the Central Valley and forages in adjacent grasslands or suitable grain or alfalfa fields, or livestock pastures. Swainson's hawks breed in California and over winter in Mexico and South America. Swainson's hawks usually arrive in the Central Valley between March 1 and April 1, and migrate south between September and October. Swainson's hawks nest usually occur in trees near the edges of riparian stands, in lone trees or groves of trees in agricultural fields, and in mature roadside trees. Valley oak, Fremont cottonwood, walnut, and large willow with an average height of about 58 feet, and ranging from 41 to 82 feet, are the most commonly used nest trees in the Central Valley. Suitable foraging areas for Swainson's hawk include native grasslands or lightly grazed pastures, alfalfa and other hay crops, and certain grain and row croplands. Swainson's hawks primarily feed on voles; however, they will feed on a variety of prey including small mammals, birds, and insects.

The project area and vicinity lack preferred foraging habitat for Swainson's hawk and it is unlikely that they would nest in the project area. There are no known sightings of Swainson's hawk in the vicinity of the project area. The closest record of nesting Swainson's hawk in CNDDB is located approximately 5.5 miles east of the project area near White Rock Road.

Cooper's hawk. Cooper's hawk (*Accipiter cooperii*) nest in deciduous trees or conifers in crotches or cavities that are usually 20 to 50 feet off the ground. The nest is a

stick platform lined with bark. Nests are usually placed in second growth coniferous stands or in the deciduous riparian areas that are closest to streams.

Cooper's hawk are recorded as occurring in several locations along the American River and the riparian habitat in the vicinity of the project area provides suitable nesting habitat for this species. The closest record of nesting Cooper's hawk in CNDDDB is located upstream of the project area along the American River at Goethe Park.

3.4.3 Environmental Effects

Basis of Significance. Adverse effects on special status species were considered significant if an alternative would result in any of the following:

- Direct or indirect reduction in the growth, survival, or reproductive success of species listed or proposed for listing as threatened or endangered under the Federal or State Endangered Species Acts.
- Direct mortality, long-term habitat loss, or lowered reproduction success of Federally or State-listed threatened or endangered animal or plant species or candidates for Federal listing.
- Direct or indirect reduction in the growth, survival, or reproductive success of substantial populations of Federal species of concern, State-listed endangered or threatened species, or species of special concern or regionally important commercial or game species.
- Have an adverse effect on a species' designated critical habitat.

No-Action Alternative. Under the no action alternative, there would be no effects on existing special status species or critical habitat. The types of special status species and their associated habitat would remain the same. Current levee maintenance, recreation, and public activity would not change. The effects of these activities on special status species and their associated habitat would be the same.

Construct Levee Improvements. Construction of the Jacob Lane levee improvements would directly and indirectly affect the habitat (elderberry shrubs) of the federally-listed Valley elderberry longhorn beetle. The project could also result in direct and indirect affects to white-tailed kite, Swainson's hawk, and Cooper's hawk. These effects could be considered significant to these special status species.

Effects to Valley Elderberry Longhorn Beetle. Construction of the Jacob Lane levee improvements would potentially result in direct and indirect affects to several elderberry shrubs. Direct effects would include removal or damage of the plants during site preparation and construction activities. Indirect effects would include physical

vibration and increase in dust during operation of equipment and trucks during construction activities.

Reach A.

The levee repair work in Reach A will require that an excavator operate from the waterside toe of the levee in order to temporarily remove soil to key-in the imported soil. The excavator will also be used, along with small tracked equipment to rebuild the levee crown and waterside slope. The FWS conducted elderberry surveys on March 31 and April 4, 2008. Reach A has a total of 17 elderberry shrubs. At the downstream end of the reach, the mitigation area at RM 10.2 has 5 elderberry shrubs located at this site near the waterside toe. The shrubs will not be directly impacted by the construction work, but to avoid damage to the shrubs, they will be protected in place with concrete barriers. The barriers will protect the shrubs from damage by the equipment, as well as from soil that may slide down the slope. The barriers will be placed as far from the dripline of the shrubs as possible, however, it is likely that the 20 foot minimum buffer zone will not be able to be met in all cases. The Corps is currently consulting with FWS to assess potential impacts and any required compensation, if necessary.

At the upstream end of the reach at RM 11.1 (across from Rio Americano High School), there are 12 elderberry shrubs located near waterside toe of the levee. The shrubs will not be directly impacted by the construction work, but to avoid damage to the shrubs, they will be protected in place with concrete barriers. The barriers will protect the shrubs from damage by the equipment, as well as from soil that may slide down the slope. The barriers will be placed as far from the dripline of the shrubs as possible, however, it is likely that the 20 foot minimum buffer zone will not be able to be met in all cases. The Corps is currently consulting with FWS to assess potential impacts and any required compensation, if necessary.

Reach B

The levee repair work in Reach B will require that an excavator operate from the waterside toe of the levee in order to temporarily remove soil to key-in the imported soil. The excavator will also be used, along with small tracked equipment to rebuild the levee crown and waterside slope. Reach B has a total of 19 elderberry shrubs concentrated in three areas along the reach. Near the downstream end of the reach, between Harrington Way and River Walk Way, there are 12 elderberry shrubs located at this site near the waterside toe. The shrubs will not be directly impacted by the construction work, but to avoid damage to the shrubs, they will be protected in place with concrete barriers. The barriers will protect the shrubs from damage by the equipment, as well as from soil that may slide down the slope. The barriers will be placed as far from the dripline of the shrubs as possible, however, it is likely that the 20 foot minimum buffer zone will not be able to be met in all cases. The Corps is currently consulting with FWS to assess potential impacts and any required compensation, if necessary.

Four elderberry shrubs were surveyed in the section where the Sheriff's Training Facility is located. Three of the shrubs are within the fenceline of the facility. The levee widening work in this entire 1,200 foot section will be moved to the landside of the levee to avoid impacts to trees, utilities and the elderberry shrubs. Although the trucks hauling the import material will still travel on the crown of the levee, they will observe the 20 foot minimum buffer zone. Water trucks will be used for dust suppression to offset the increase in vehicular traffic over the normal maintenance traffic. The fourth elderberry shrub in this section is located on the landside of the levee and is growing adjacent to the fenceline of a residence. This specimen is extremely large, with some stems resembling the trunks of a mature tree. Due to the levee work being conducted on the landside in this section, this shrub will be directly impacted by the placement and movement of the equipment. This shrub will require trimming of three stems greater than 5 inches in diameter. It will also not be possible to observe the 20 foot minimum buffer zone in this situation. Although no exit holes were identified during the elderberry surveys on March 31 and April 4, a male VELB was observed on this shrub during a site visit on April 28. As a result, this shrub will not be trimmed until the VELB have entered their dormant season (November 15 through February 15). The trimming will be conducted by a certified arborist, with a qualified biologist on hand for consultation. The Corps is currently consulting with FWS to assess the impacts and required.

At the upstream end of the reach near Arden Way, 3 elderberry shrubs are located among the eucalyptus trees that will be removed. One elderberry shrub can be protected in place, one shrub will require trimming of two stems and one shrub will be transplanted due to its proximity to the trees to be removed. The shrub will be transplanted to a FWS approved site. The trimming and transplanting will be conducted by a certified arborist. The Corps is currently consulting with FWS to determine the required compensation for these shrubs.

Effects to White-tailed kite. A white-tailed kite nest is recorded in CNDDDB as occurring several hundred feet northeast of the project area along the American River. Construction of the Jacob Lane levee improvements could potentially result in direct and/or indirect affects to white-tailed kite if this species begins nesting in or adjacent to the project area prior to construction. Construction activities in the vicinity of a nest have the potential to result in forced fledging or nest abandonment by adult hawks.

Effects to Swainson's Hawk. No Swainson's hawk nests are known to occur in the vicinity of the project area. However, construction of the Jacob Lane levee improvements could potentially result in direct and/or indirect affects to Swainson's hawk if this species begins nesting in or adjacent to the project area prior to construction. Construction activities in the vicinity of a nest have the potential to result in forced fledging or nest abandonment by adult hawks.

Effects to Cooper's Hawk. No Cooper's nests are known to occur in the vicinity of the project area. However, construction of the Jacob Lane levee improvements could potentially result in direct and/or indirect affects to Cooper's hawk if this species begins nesting in or adjacent to the project area prior to construction. Construction activities in

the vicinity of a nest have the potential to result in forced fledging or nest abandonment by adult hawks.

3.4.4 Mitigation

Valley Elderberry Longhorn Beetle. The Corps is currently consulting with FWS to assess potential impacts and required compensation. To avoid potential take of the valley elderberry longhorn beetle, the following measures taken from the Service's "Conservation Guidelines for the Valley Elderberry Longhorn Beetle," July 1999 would be incorporated into the project:

- A minimum setback of 20 feet from the dripline of all elderberry shrubs will be established, if possible. If the 20 minimum buffer zone is not possible, the next maximum distance allowable will be established. This area would be fenced, flagged and maintained during construction.
- Environmental awareness training would be conducted for all workers before they begin work. The training would include status, the need to avoid adversely affecting the elderberry shrub, avoidance areas and measures taken by the workers during construction, and contact information.
- Signs would be placed every 50 feet along the edge of the elderberry buffer zones. The signs would include: "This area is the habitat of the valley elderberry longhorn beetle, a threatened species, and must not be disturbed. This species is protected by the Endangered Species Act of 1973, as amended. Violators are subject to prosecution, fines, and imprisonment." The signs should be readable from a distance of 20 feet and would be maintained during construction.

Swainson's Hawk Mitigation. Construction would be timed to occur outside of the breeding season (March to August) to avoid destruction of active bird nests or young of birds that breed in the area. If this is not feasible, a qualified biologist would survey the project area and all areas within one-half mile of the project prior to initiation of construction. If the survey determines that a nesting pair is present, the Corps would coordinate with the State Department of Fish and Game, and the proper avoidance and minimization measures would be implemented. To avoid potential effects to nesting Swainson's hawks, the California Department of Fish and Game typically requires the avoidance of nesting sites during construction activities. These measures include avoiding construction during the breeding season and monitoring of the nest site by a qualified biologist.

The proposed mitigation measures would reduce the effects on the Swainson's hawk to less than significant.

White-tailed kite Mitigation. Construction would be timed to occur outside of the breeding season (February 15 to September 15) to avoid destruction of active bird nests or young of birds that breed in the area. If this is not feasible, a qualified biologist would survey the project area and vicinity prior to initiation of construction. If the survey determines that a nesting pair is present, the Corps would coordinate with the State Department of Fish and Game, and the proper avoidance and minimization measures would be implemented.

The proposed mitigation measures would reduce the effects on the white-tailed kite to less than significant.

Cooper's hawk Mitigation. The Cooper's Hawk breeding season (February 15 to September 15) overlaps much of the typical construction season, so it will be difficult to time construction activities to avoid the breeding season. However, a qualified biologist would survey the project area and vicinity prior to initiation of construction to determine if active nests are present. If the survey determines that a nesting pair is present, the Corps would coordinate with the State Department of Fish and Game, and the proper avoidance and minimization measures would be implemented. These measures would include avoiding direct disturbance of the nest sites (i.e. removal of nest trees and construction activities in the immediate vicinity of the active nests) during breeding and fledging of the young hawks.

The proposed mitigation measures would reduce the effects on the Cooper's hawk to less than significant.

3.5 Air Quality

3.5.1 Existing Conditions

Regulatory Background. The Federal Clean Air Act establishes National Ambient Air Quality Standards (AAQS) and delegates enforcement to the states, with direct oversight by the U.S. Environmental Protection Agency (EPA). In California, the Air Resources Board (CARB) is the responsible agency for air quality regulation.

The California Clean Air Act established California AAQS. These standards are more stringent than Federal standards and include pollutants not listed in Federal standards. All Federal projects in California must comply with the stricter State air quality standards. The Federal standards and local thresholds for Sacramento County are shown in Table 1.

Table 1. Air Emission Thresholds for Federal and Local Criteria Pollutants

Criteria Pollutant	Federal Standard (tons/year)	SMAQMD Threshold (lbs/day)
NO _x	50	85
CO	100	*
SO	100	*
PM ₁₀	100	*
ROG	50	65

NO_x = nitrogen oxides

PM₁₀ = particulate matter

CO = carbon monoxide

ROG = reactive organic gases

SO = sulfur oxides

* = default to State standard

SMAQMD = Sacramento Metropolitan Air Quality Management District

Source: SMAQMD, 2008; U.S. Department of Energy, Safety and Health Office of NEPA Policy and Assurance, 2000.

On November 3, 1993, the U.S. EPA issued the General Conformity Rule, stating that Federal actions must not cause or contribute to any violation of a National AAQS or delay timely attainment of air quality standards. A conformity determination is required for each pollutant where the total of direct and indirect emissions caused by a Federal action in a nonattainment area exceeds *de minimus* threshold levels listed in the rule (40 CFR 93.153).

Local Air Quality Management. The Sacramento area is included in the Sacramento Valley Air Basin. The air quality in the area is managed by the Sacramento Metropolitan Air Quality Management District (SMAQMD), which is included in the Sacramento Federal Ozone Nonattainment Area (SFNA) and is also subject to regulations, attainment goals, and standards of the U.S. and California EPA's.

With two exceptions, the SFNA is in attainment for all National and State AAQS. However, the area is designated a "serious" nonattainment area for the National 8-hour AAQS for ozone and is a "serious" nonattainment area for the State's 1-hour ozone standard. As a part of the SFNA, Sacramento County is out of compliance with the State and Federal ozone standards.

With respect to the State and Federal 24-hour particulate matter 10 microns or larger (PM₁₀) AAQS, Sacramento County is designated as a nonattainment area. Additionally, in June 2004, the U.S. EPA proposed to classify Sacramento County in attainment of the new Federal PM_{2.5} standard (SMAQMD, 2004). The California Clean Air Act of 1988 requires nonattainment areas to achieve and maintain the State ambient air quality standards by the earliest practicable date and local air districts to develop plans for attaining State ozone standards.

Sources of Pollutants/Sensitive Receptors. The main sources of emissions contributing to elevated ozone and PM₁₀ concentrations in this area of the Sacramento Air Basin are vehicular emissions and airborne pollutants from road dust and plowing of fields. Light industry and emissions from recreational boaters and Sacramento Executive Airport also contribute to reduced air quality in the region. Sensitive receptors in the project area include residents and wildlife.

3.5.2 Environmental Effects

Basis of Significance. A project would significantly affect air quality if it would: (1) violate any ambient air quality standard, (2) contribute a long-term basis to existing or projected air quality violation, (3) expose sensitive receptors to substantial pollutant concentrations, or (4) not conform to applicable Federal and State standards, and local thresholds on a long-term basis.

No Action. Under the no action alternative, the project would not affect air quality in the project area. Air quality would continue to be influenced by climatic and geographic conditions, and local and regional emissions from vehicles, and local commercial and industrial land uses. However, air quality is expected to improve in the future. The CARB and the SMAQMD will be implementing stricter ozone precursor and PM₁₀ standards.

Construction of Levee Improvements. Emissions associated with the project would be short-term during construction. Combustion emissions would result from the use of construction equipment, truck haul trips to and from commercial sources and disposal sites, and worker vehicle trips to and from the work areas. Exhaust from these sources would contain reactive organic gases (ROG), carbon monoxide (CO), nitrogen oxides (NO_x), and PM₁₀. Exhaust emissions would vary depending on the type of equipment, the duration of use, and the number of construction workers and haul trips to and from the construction site. Fugitive dust would also be generated during disturbance of the ground surfaces during construction.

The Road Construction Emissions Model, Version 5.2, was used in favor of the Urban Emissions Model, Version 7.5, as it applies to linear construction activities such as levee construction and repair activities. The road construction model was used to estimate project emission rates for ROG, CO, NO_x, sulfur dioxides, and PM₁₀. The estimated equipment to be used, volume of material to be moved, and disturbance acreages were compiled to determine the data to input into the emissions model. The emission calculations are based on standard vehicle emission rates built into the model.

The emissions were calculated separately for the work at Reaches A and B. Details and results of the calculations for each reach are provided in Appendix B. However, because of the regional nature of the resource and because construction may be conducted at both reaches concurrently, the results of the calculations were combined to

determine compliance with standards and thresholds, and significance of effects. The estimated combined emissions are shown in Table 2.

Table 2. Combined Estimated Air Emissions for Reaches A and B

	ROG	NO _x	CO	PM ₁₀
Site Preparation & Construction				
Total emissions (lbs/day)	32	232	216	20
SMAQMD thresholds (lbs/day)	65	85	N/A	N/A
Total (tons/construction project)	0.4	2.5	2.5	0.2
Total (tons/year)	5.8	42.3	39.4	3.7
Federal standards (tons/year)	100	100	100	100

ROG = reactive organic gases

PM₁₀ = particulate matter

NO_x = nitrogen oxides

SO_x = sulfur oxides

CO = carbon monoxide

Note: Estimates rounded.

Reaches A and B. Table 2 summarizes the combined estimated emissions (in pounds per day, total tons for the project and total tons per year) for the project and compares them to the Federal standards and local thresholds. The results show that the combined NO_x emissions would exceed the SMAQMD threshold of 85 pounds per day.

The table also shows that construction emissions of PM₁₀ and ROG would each be less than the *de minimis* thresholds established by the U.S. EPA for conformity analyses. In addition, the best management practices listed in Section 3.5.3 would be implemented to reduce the NO_x emissions below the Federal standard. As a result, the proposed action does not require an in-depth conformity analysis to evaluate ambient air quality concentrations and instead is presumed to conform to the region's ozone State implementation plan. Thus, the Corps has determined that the proposed action is exempt from the conformity rule.

Global Warming and Climate Change. The construction activities associated with the project will contribute to global warming by using equipment that will use carbon based fuel that releases some greenhouse gases. Based on the air emissions calculations, the CO emissions related to the construction only account for 2.5% of the Federal standard. The construction period and the type and quantities of equipment are limited and the overall contribution will be minor. After completion of construction, there will be no change from the current operation of the project and no increase in CO emissions. Mitigation measures implemented during construction would reduce impacts to air quality and would also mitigate for impacts to global warming.

The project will improve flood protection along the American River by meeting current requirements to safely convey an emergency release of 160,000 cfs with 3 feet of freeboard. The current design requirements will bring equity to the levee system within the lower American River and are based on recent data and trends. More current data regarding the changes in seasonal weather patterns may ultimately determine that the

current design requirements may no longer be adequate. The Corps will evaluate these trends in consideration for reducing the flood risk in this region.

3.5.3 Mitigation

Implementation of the best management practices listed below would reduce air emissions and ensure that the project emissions would remain at less-than-significant levels. Since there would be no significant effects on air quality, no mitigation would be required.

- Maintain properly functioning emission control devices on all vehicles and equipment.
- Use diesel-fueled equipment manufactured in 2003 or later, or retrofit equipment manufactured prior to 2003 with diesel oxidation catalysts.
- During construction, implement all appropriate dust control measures, such as tarps or covers on dirt piles, in a timely and effective manner.
- Periodically water all construction areas having vehicle traffic, including unpaved areas, to reduce generation of dust. Application of water would not be excessive or result in runoff into storm drains.
- Suspend all grading, earth moving, or excavation activities when winds exceed 20 miles per hour.
- Water or cover all material transported offsite to prevent generation of dust.
- Sweep paved streets adjacent to construction sites, as necessary, at the end of each day to remove excessive accumulations of soil or dust.
- Cover all trucks hauling dirt, sand, soil, or other loose material, or maintain at least 2 feet of freeboard (minimum vertical distance between top of the load and top of the trailer) in accordance with the requirements of California Vehicle Code Section 23114. This provision would be enforced by local law enforcement agencies.
- Revegetate or pave areas cleared by construction in a timely manner to control fugitive dust.

Prior to construction, the contractor must submit for a permit with SMAQMD. The permit requirements include submitting a list of equipment to be used on the project, and a plan indicating how the activities will, or will not, meet agency standards. The contractor will be responsible for payment of any required mitigation fees.

3.6 Water Resources and Quality

3.6.1 Existing Conditions

The Sacramento metropolitan area is situated at the confluence of the American and Sacramento River in a low-lying flood basin. Levees along these rivers provide flood protection and convey water from the Sierra Nevada to the Sacramento-San Joaquin

Delta. Winter rains and spring snow melt can cause high flows in the valley rivers. High flows stress levees and berms, weakening them, causing them to erode, and possibly fail. To maintain the flood control system, areas with existing or potential erosion and seepage damage are identified and repaired.

The American River is the major waterway in the project area. The river flow is influenced by upstream dams, local weather, spring snow melt, flood by-passes, and upstream tributaries. Folsom and Nimbus Dams have the greatest effect on water flow in this section of the river. The mean water level for the American River at the confluence of the Sacramento River was 20.44 feet in 2007. The maximum water level of the American River was 33.54 feet and the minimal water level was 16.75 feet at the confluence in 2007 (DWR 2007).

American River water quality is affected by storm water runoff, water diversion, and surrounding land uses. The water quality tends to degrade as the river leaves the Sierra Mountains and flow through the Central Valley into the Sacramento-San Joaquin Delta. Water quality studies by U.S. Geological Survey determined that urban runoff from the metropolitan area of Sacramento is a potential source of contaminants that enter the lower Sacramento River. Contamination by volatile organic compounds, especially contamination of ground water, can occur in any large urban setting. (Domagalski, Joseph 2007).

The local rivers, lakes, and rainfall recharge the ground water table in the project area. The City of Sacramento utilizes the ground water to supply drinking water to businesses and residential homes. The ground water table is approximately 75 feet below the surface. Average ground water depth can be affected by seasonal changes in water volume in the valley rivers and lakes, local rainfall, and urban demand on the ground water (DWR 2005).

The ground water quality is affected by chemicals that seep into the ground by surrounding land uses. Ground water testing resulted in low concentrations of eight volatile organic compounds, four pesticides, and one pesticide transformation product. The ground water table had high concentrations of nitrates and nitrogen. Arsenic concentrations exceed the EPA maximum concentration level of 10 milligrams per liter. Manganese, iron, chloride, total dissolved solids, and specific conductance exceeded the California Department of Health Services recommended secondary maximum contaminant levels (Shelton, Jennifer L. 2005).

3.6.2 Environmental Effects

Basis of Significance. A project would significantly affect water resources if it would: (1) result in the loss of a surface or groundwater source, or (2) interfere with existing beneficial uses or water rights.

No Action. Under this alternative, there would be no construction activity to affect water resources or quality in the project area. The surface and groundwater conditions would not change.

Construct Levee Improvements

Reach A and B. Levee construction would occur within the levee alignment and waterside levee slope. The closest the American River gets to the construction limit is approximately 150 feet in Reach A and 500 feet in Reach B. The completed levee improvements would not significantly alter the alignment of the current levee nor would they provide for any additional flow capacity beyond the current design requirements. The improvements will stabilize the levees in this section of the levee system to safely convey an emergency release of 160,000 cfs with 3 feet of freeboard. The improvements will not alter the river hydraulics nor would they alter the downstream capacity of the levee system. The downstream sections of the levee system on the American River are already capable of safely conveying an emergency release of 160,000 cfs with 3 feet of freeboard.

Approximately 13,000 total feet of bare soil (combined reaches) would be exposed until construction is completed and the levee slope is reseeded. Dust control measures would be implemented on the levee crown, side slopes, maintenance roads and stockpiles to avoid dust and soil from entering the river or other drainages as a result of construction activities. Precautions would be followed to avoid erosion and movement of soils into the drainage system.

In addition, inadvertent spills of oil or fuels from construction equipment could be a source of contamination at work or staging areas. Precautions would be followed to avoid contamination. The contractor would be required to properly store and dispose of any hazardous waste generated at the site. Riparian vegetation and best management practices would prevent sediment and erosion runoff from entering the river.

3.6.3 Mitigation

Since the project would disturb more than 1 acre of land, the contractor would be required to obtain a National Pollution Discharge Elimination System (NPDES) permit from the Regional Water Quality Control Board (RWQCB), Central Valley Region. As part of the permit, the contractor would be required to prepare a Storm Water Pollution Prevention Plan (SWPPP), identifying best management practices to be used to avoid or minimize any adverse effects during construction to surface waters.

- The following best management practices would be incorporated into the project:
- The contractor would prepare a spill control plan and a SWPPP prior to initiation of construction. The SWPPP would be developed in accordance with guidance

from the RWQCB, Central Valley Region. These plans would be reviewed and approved by the USACE before construction began.

- Implement appropriate measures to prevent debris, soil, rock, or other material from entering the water. Use a water truck or other appropriate measures to control dust on haul roads, construction areas, and stockpiles.
- Properly dispose of oil or other liquids.
- Fuel and maintain vehicle in a specified area that is designed to capture spills. This area can not be near any ditch, stream, or other body of water or feature that may convey water to a nearby body of water.
- Inspect and maintain vehicles and equipment to prevent dripping of oil or other liquids.
- Schedule construction to avoid the rainy season as much as possible. Ground disturbance activities could begin in the fall of 2008 or the spring of 2009. If rains are forecasted during construction, erosion control measures would be implemented as described in the RWQCB Erosion and Sediment Control Field Manual.
- Maintain sediment and erosion control measures during construction. Inspect the control measures before, during, and after a rain event.
- Train construction workers in stormwater pollution prevention practices.
- Revegetate disturbed areas in a timely manner to control erosion.

Since no significant adverse affects to groundwater or surface water resources are anticipated, no additional mitigation is required.

3.7 Traffic and Circulation

3.7.1 Existing Conditions

Streets in the project area consist primarily of minor residential streets maintained by Sacramento County. City sidewalks are located on each side of the residential streets, which are used by local residents. The American River Parkway provides recreation trails used for pedestrian traffic (running and walking), horseback riding and bicycling are located throughout the project area.

Roadways that parallel Reach A include: Morris Way, North River Road, and Crondall Drive. These roadways are two-lane residential roadways on the landside of the levee. Roadways that are landside and parallel to Reach B include: McClaren Drive,

Sandbar Circle, and Sherlock Way. Streets that cross or end at the levee include Arden Way, River Walk Way, Estate Drive, Harrington Way, and Jacob Lane. These are two-lane streets in the project area. Harrington Way and Arden Way cross the levee and end at an American River Parkway parking lot on the waterside of the levee. Estate Drive ends at the levee. River Walk Way crosses the levee and connects the nearby police training facility with Sandbar Circle. The smaller residential roads connect neighborhoods to major urban connector roads. Traffic on the residential streets includes private automobiles and bicycles. Traffic on the residential roads tends to be light through out the day with a peak during the morning and evening rush hour.

The nearest major road to the project area is American River Drive. This roadway is a major, four-lane urban roadway that connects local residential and commercial areas to state highways and other parts of the metropolitan area. American River Drive is outside of the project area but would be used to access the project area during construction. Types of traffic on American River Drive include private automobiles, light commercial vehicles, emergency vehicles, public buses, and bicycles. Traffic volume on American River Drive peaks during the morning and evening rush hour and becomes a steady but lower volume during the day.

Pedestrian traffic is low during the day and peaks in the early evening. Pedestrian traffic is the highest near Rio Americano High School. Recreation traffic in the American River Parkway and levee bicycle trail is the highest in the early evening till dusk. The American River Parkway trail is a paved two-lane bike trail. The levee trail is a gravel road on top of the levee.

Sacramento County posts traffic counts on their web site for roadways in the project area. Traffic count at McClaren Drive and Arden Way is 2,233 cars per day, 6,156 cars per day at Jacob Lane and Fair Oaks Boulevard, and 6,610 cars per day at American River Drive and Saverien Drive (Sacramento County 2007).

3.7.2 Environmental Effects

Basis of Significance. The project would have a significant affect on traffic if it would: (1) cause an increase in traffic volume that is substantial in relation to the existing load and capacity of a roadway, (2) cause an increase in safety hazards on an area roadway, or (3) cause substantial deterioration of the physical condition of the nearby roadways.

No Action Alternative. The no action alternative would have no effect on the traffic and circulation in the project area. The existing roadways, bike paths, types of traffic, traffic volume, and circulation patterns would not change.

Construct Levee Improvements

The project would temporarily affect local residential roads and major urban connector roads that would be used as a haul route during construction. Haul trucks

would cause an increase in traffic volume and reduce traffic speeds on local residential roads. Haul trucks would have a minor affect on traffic volume and traffic speeds on the major urban connector roads.

Reach A. The directional flow of construction has not been determined for the project however, roads and access points have been identified. During construction, the haul trucks will travel between the commercial borrow pit and the construction site. For the purposes of this discussion the following scenario will be used to describe the haul routes and traffic impacts: Haul trucks would use Watt Avenue, Fair Oaks Boulevard, and Jacob Lane, using the access point at Jacob Lane to enter the levee. After offloading the material, the haul trucks would exit at the Willhaggin pump station to access American River Drive and Highway 50 to leave the project area. A flagman at the levee end of Jacob Lane would direct construction traffic as the haul trucks enter the construction site. During the height of construction it is estimated that approximately 30 haul trucks will be accessing the site per hour. All trucks will be limited to the haul route as determined by the Corps.

Access to the Jedediah Smith Recreation Trail at the formal and informal pedestrian trails scattered along the project site would be closed during construction. For a complete list of closed pedestrian access spots, see Section 3.2.2. The closed pedestrian access points are shown on Plate 2. A flagman would be positioned at Estates Drive in order to allow recreational access to the trail. In several areas, concrete barriers would be placed along the landside edge of the bike trail to allow the recreation trail to remain open during construction. The barriers would be removed once construction is completed.

Reach B. The directional flow of construction has not been determined for the project however, roads and access points have been identified. For the purposes of this discussion the following scenario will be used to describe the haul routes and traffic impacts: To access the construction site, haul trucks would use Watt Avenue, Fair Oaks Boulevard, and Arden Way, using the access point at Arden Way to enter the levee. After offloading the material, the haul trucks would use Jacob Lane, Fair Oaks Boulevard, Watt Avenue, and Highway 50. It is reasonable to assume that the material will be acquired from sites along the Highway 50 corridor within 10 to 15 miles of the project site. At the recreation access points flagmen would be positioned at Arden Way, River Walk Way, and Harrington Drive and Jacob Lane to direct traffic through the construction site. During the height of construction it is estimated that approximately 30 haul trucks will be accessing the site per hour.

The haul trucks would have the same effect on traffic along the haul route as what is described in Reach A. Haul trucks would use Arden Way instead of Jacob Lane to access the construction site. Haul trucks leaving Reach B would also affect the intersection of Jacob Lane and American River Drive. Traffic would return to normal once construction is completed.

Assuming soil deliveries would be made for 10 hours a day during the height of construction, approximately 250 truck trips would occur on the reach per day. The haul routes are designed to minimize the occurrences of two-way travel on the same street or road. Assuming that both reaches would be constructed concurrently, only Fair Oaks Boulevard and Jacob Lane would experience 500 truck trips per day, or greater, during the height of construction. Based on the vehicle counts provided by Sacramento County stated above, only Arden Way at McClaren Drive would experience greater than a 10% increase in traffic (11%). Fair Oaks Boulevard could experience as many as 750 vehicles per day, as it is a common thoroughfare for both haul routes. However, this would be less than a 1% increase in vehicles and would not be significant.

Access to the Jedediah Smith Recreation Trail at Jacob Lane, and other formal and informal pedestrian access trails scattered along the project site would be closed during construction. Flagmen would be used at the River Walk Way, Arden Way, and Harrington Drive to allow recreation access to the Jedediah Smith Recreation Trail. Concrete barriers would be placed along the landside edge of the trail near Harrington Drive to protect recreationists. The barriers would narrow the trail by approximately one to two feet in width. The barriers would be removed once construction is completed.

3.7.3 Mitigation

The contractor would be required to develop a Traffic Control Plan, which would be reviewed and approved by Sacramento County, CALTRANS, and the Corps prior to construction. This plan would include the following measures:

- Do not permit construction vehicles to block any roadways or private driveways.
- Provide access for emergency vehicles at all times.
- Select haul routes to avoid schools, parks, and high pedestrian use areas, when possible. Crossing guards provided by the contractor would be used when truck trips coincide with schools hours and when haul routes cross student travel path.
- Obey all speed limits, traffic laws, and transportation regulations during construction.
- Use signs and flagmen, as needed, to alert motorists, bicyclists, and pedestrians to avoid conflict with construction vehicles or equipment.
- Flagmen would be used at each roadway that crosses the levee to safely circulate traffic through the construction site.
- Use separate entrances and exits to the construction site.

- Construction employee parking will be restricted to the designated staging areas.
- Prior to construction, notify local residents, business, schools, and the City of Sacramento if road closures would occur during construction.

The proposed mitigation measures would reduce the effects on traffic and circulation to less than significant.

3.8 Public Utilities and Services

3.8.1 Existing Conditions

Public services in or near the project area includes street cleaning, trash pickup, potable water supply, electricity, natural gas supply, storm water discharge, and sanitary sewage. These public services are implemented by local utilities and Sacramento County. Public utility facilities, pipelines, and conduits in the project area includes: a force sewer main, drainage pipeline and gate structure, and a commercial petroleum distribution pipeline. On the waterside of Reach B, between RM 11.7 and 11.9 is a former waste-water treatment facility that is owned by the county. As of 2000, the water-treatment facility was converted to a Sacramento County Sheriff's Training Facility (USFWS 2000).

3.8.2 Environmental Effects

Basis of Significance. A project would significantly affect public utilities and services if it would: (1) disrupt or significantly diminish the quality of the public utilities and services for an extended period of time, or (2) damage public utility and service facilities, pipelines, conduits, or power lines.

No Action. Under the no action alternative there would be no effects on public utilities and services in the project area. There would be no change in type, quality, or availability of services in the project area.

Construct Levee Improvements

Reach A and Reach B. No utilities or public services would be interrupted during construction. Construction would not access or realign existing potable water supply, sanitary sewerage, or storm sewer system. All utilities located adjacent to, or passing through, the project levee will be protected in place. Natural gas supply or electrical transmission lines would not be augmented except to provide temporary electrical power to the contractor's construction trailer. Employee vehicles would park in project staging areas to avoid interrupting public services.

3.8.3 Mitigation

Prior to initiating ground disturbing activities, the contractor will coordinate with Underground Service Alert (USA) to insure that all underground utilities are identified and marked. Since no significant adverse affects to public utilities and services are anticipated, no additional mitigation is required.

3.9 Noise

3.9.1 Existing Conditions

Noise is defined as unwanted sound that evokes a subjective reaction to the physical characteristics of a physical phenomenon. Ambient noise in the project area is generated by the traffic on the adjacent surface streets. Other noise may be generated primarily in the summer by motorized recreation on the American River. Based on experience with similar settings, it is assumed that existing noise levels in the project area are in the range of 60 to 70 decibels (dB) day-night sound level (Ldn). Noise-sensitive receptors in the project area include residents, recreational users, and wildlife.

Both reaches of the project area are relatively quiet areas of single family residential homes. Currently the main source of noise includes motor vehicles, human activity, and natural sounds. In Reach A there is a school located adjacent to the project area. Construction noise related to commercial or residential activity varies with the type of equipment and length of activity.

The project area is located within Sacramento County. The County of Sacramento General Plan Noise Element (1993) has established noise standards for various land use categories. These standards are broken out into Acceptable, Conditionally Acceptable and Unacceptable noise exposure ranges based on A-weighted decibel (dBA) Ldn measurements.

Although construction equipment may cause noticeable increase in ambient noise levels near individual levee construction and staging areas any noise increases would be short term and intermittent. Construction noise would fluctuate, depending on construction phase, equipment type and duration of use, distance between noise source and receptor, and presence or absence of barriers between noise source and receptor. Noise from construction activity generally attenuates at six to nine dBA per doubling of distance. Assuming an attenuation rate of six dBA per doubling of distance, construction equipment noise in the range of 80 to 90 dBA at 50 feet would generate noise levels of 74 to 84 dBA at 100 feet from the source. The residences in this project area are located approximately 50 feet from the construction area. Using the same attenuation rate of 6dBA per doubling of distance, the noise levels would not drop substantially based on the distance from the source. Most every property has trees or shrubbery planted at the rear of their property which adjoins the landside boundary of the project area. This vegetation should provide for some attenuation of the noise.

3.9.2 Environmental Effects

Basis of Significance. Adverse effects on noise are considered significant if an alternative would result in any of the following:

- Exposure of persons or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
- Substantial short-term or periodic increase in ambient noise levels in the project vicinity above existing levels existing without the project.
- Substantial long-term increase in ambient noise levels in the project vicinity above levels existing without the project.
- Vibration exceeding 0.2 inch per second within 75 feet of existing buildings.

The significance criteria for changes in noise from project operations are listed below. These criteria are based on the County of Sacramento Noise Ordinance.

- A 3-dBA increase in noise if the existing noise level already exceeds the “normally acceptable range” for the land use (60 dBA or less for residential uses).
- A 5-dBA increase in noise if the existing noise level is in the “normally acceptable range” and the resulting level is within the “normally acceptable range” for the land use.
- A resulting offsite exterior noise level that exceeds 55 dBA for a cumulative duration of 30 minutes in an hour (L50) during the daytime (7:00 a.m. to 10:00 p.m.) or 50 dBA L50 during the nighttime (10:00 pm to 7:00 a.m.).

No-Action Alternative. Under the no action alternative, there would be no effects on noise. Sources of noise and noise levels would continue to be determined by local activities, development, and natural sounds.

Construct Levee Improvements. Construction activity noise levels at and near the construction areas would fluctuate depending on the particular type, number, and duration of uses of various pieces of construction equipment. Construction-related material haul trips would raise ambient noise levels along haul routes, depending on the number of haul trips made and types of vehicles used. In addition, certain types of construction equipment generate impulsive noises (such as pile driving), which can be particularly annoying. Pile driving, however, is not proposed for project development. Table 10 shows typical noise levels during different construction stages. Table 11 shows typical noise levels produced by various types of construction equipment.

Table 3. Typical Construction Noise Levels

Construction Phase	Noise Level (dBA, Leq)^a
Ground Clearing	84
Excavation	89
Foundations	78
Erection	85
Finishing	89

^a Average noise levels correspond to a distance of 50 feet from the noisiest piece of equipment associated with a given phase of construction and 200 feet from the rest of the equipment associated with that phase. Source: U.S. Environmental Protection Agency, 1971.

Table 4. Typical Noise Levels From Construction Equipment

Construction Equipment	Noise Level (dBA, Leq at 50 feet)
Dump Truck	88
Portable Air Compressor	81
Concrete Mixer (Truck)	85
Scraper	88
Jack Hammer	88
Dozer	87
Paver	89
Generator	76
Pile Driver	101
Backhoe	85

Source: Cunniff, Environmental Noise Pollution, 1977.

Noise from construction activities generally attenuates at a rate of 6 to 7.5 dBA per doubling of the distance from the reference noise source. Based on the project site layout and terrain, an attenuation of 6 dBA will be assumed. Residences are located adjacent to the project area, the nearest having approximately 50 feet between their backyard and excavation areas. This residence would experience noise levels at about 86 dBA during excavation, the loudest of construction activities that would occur. Other residences located around the project area are further away and thus would receive lower levels of noise. During the height of construction, the haul route is expected to have 250 round trips per day. A receptor at 50 feet from a dump truck would experience noise levels up to approximately 88 dBA during a pass by.

Construction noise at these levels would be substantially greater than existing noise levels at nearby sensitive receptor locations. Construction activities associated with the project would be temporary in nature and related noise impacts would be short-term. However, since construction activities could substantially increase ambient noise levels at noise-sensitive locations, especially if they were to occur during the nighttime hours, noise from construction would be potentially significant without mitigation.

Reach A. Construction activities would result in short-term increases in ambient noise. Sensitive receptors that could be affected by this increase include residents,

wildlife, recreationists and students. Construction of the project would occur between the hours of 7:00 a.m. to 6:00 p.m., Monday through Saturday, and 9:00 a.m. to 6:00 p.m. on Sundays. The noise associated with the construction activities would typically fall within the County of Sacramento's Conditionally Acceptable noise exposure category at the point of sensitive receptors. The construction activities are designed to be conducted in 1,000 foot segments within each reach and each segment is estimated to take no longer than a week. Because construction would be short-term, and construction activities would be limited to these times, this effect would be less than significant.

Rio Americano High School borders the edge of the construction area in Reach A, and is considered a sensitive receptor. Construction will be coordinated with the San Juan Unified School District and with the school in order to determine the extent of the effect that construction noise will have on the school. If necessary, the construction schedule will be adjusted to minimize impacts on the school.

Construction activities associated with the project may result in some minor amount of ground vibration. Vibration from construction activity is typically below the threshold perception when the activity is more than about 50 feet from the receptor. The closest residences to the construction activities will be 70 feet away, or greater. Due to the transitional nature of the construction activities, exposure at any one location will be intermittent. The most common activity throughout each reach will result from truck traffic. Additionally, vibration from these activities would be short term and would end when construction is completed. The construction activities would not involve high-effect activities like pile driving.

Reach B. Construction activities would result in short-term increases in ambient noise. Sensitive receptors that could be affected by this increase include residents, wildlife, and recreationists. Construction of the project would occur between the hours of 7:00 a.m. to 6:00 p.m., Monday through Saturday, and 9:00 a.m. to 6:00 p.m. on Sundays. The noise associated with the construction activities would typically fall within the County of Sacramento's Conditionally Acceptable noise exposure category at the point of sensitive receptors. The construction activities are designed to be conducted in 1,000 foot segments within each reach and each segment is estimated to take no longer than a week. Because construction would be short-term, and construction activities would be limited to these times, this effect would be less than significant.

Construction activities associated with the project may result in some minor amount of ground vibration. Vibration from construction activity is typically below the threshold perception when the activity is more than about 50 feet from the receptor. The closest residences to the construction activities will be just beyond this 50-foot limit, however, most residences will be 70 feet away, or greater. Due to the transitional nature of the construction activities, exposure at any one location will be intermittent. The most common activity throughout each reach will result from truck traffic. Additionally, vibration from these activities would be short term and would end when construction is completed. Because construction activity would not involve high-effect activities like pile driving, and is short-term in nature, this effect would be less than significant.

3.9.3 Mitigation

The following measures would be implemented to reduce the adverse effects on noise as much as possible:

- Construction activities shall be limited to between 7:00 a.m. and 6:00 p.m. Monday through Saturday. Sundays will be for equipment maintenance. This will be in accordance with the Sacramento County Noise Ordinance.
- Construction equipment noise shall be minimized during project construction by muffling and shielding intakes and exhaust on construction equipment (per the manufacturer's specifications) and by shrouding or shielding impact tools.
- Turn off all equipment, haul trucks, and worker vehicles when not in use for more than 30 minutes.
- Notify residences about the type and schedule of construction.

Compliance with the local noise ordinance would minimize the exposure of residents to excessive noise. Construction is scheduled to be completed within 4 months. Therefore, the impact after mitigation is less than significant.

3.10 Esthetics/Visual Resources

3.10.1 Existing Conditions

The lower American River is a component of the National Wild and Scenic Rivers System. Section 7 of the Wild and Scenic Rivers Act prohibits Federal agencies from "assist[ing] by loan grant, license, or otherwise in the construction of any water resources project that would have a direct and adverse effect on the values for which such river was established." The lower American River is designated under this act for its recreational values pertaining to fishing and parkway activities.

It is National policy that esthetic resources be protected along with other natural resources. Esthetic resources are those natural resources, landforms, vegetation, and manmade structures in the environment that generate one or more sensory reactions and evaluations by the observer, particularly in regard to pleasurable response. These sensory reactions are traditionally categorized as pertaining to sight, sound, and smell. Esthetic quality is the significance given to esthetic resources based on the intrinsic physical attributes of those specific features and recognized by public, technical, and institutional sources. The identification of scenic resources in the landscape requires a process that identifies the relevant visual features and that is derived from established Federal procedures. Visual quality is influenced by many landscape features including geologic, hydrologic, botanical, wildlife, recreational, and urban characteristics.

The area along this stretch of the American River has a moderate esthetic value. The American River is located between 150 and 500 feet from the project reaches and provides valuable riparian habitat as well as recreational opportunities. Nearer to the project area the esthetic components include residential development, the project levee, American River Parkway access points and parking lots, the American River Parkway Foundation building, the Jedediah Smith Recreation Trail (bike trail) and the Sheriff's Training Facility (former sewer treatment plant). These components intermix with the parkway at its fringes which also tempers the esthetic value in these areas.

The eucalyptus trees proposed for removal are located along one of these fringe areas in Reach B. The trees provide a visual as well as sound barrier between residents and the parking lot at the William Pond Park access to the parkway. They range in height from 25 to 40 feet and are interspersed amongst other trees, including native oaks, of lesser size and maturity. These trees, to the extent possible, will be protected during the removal of the eucalyptus trees.

3.10.2 Environmental Effects

Basis of Significance. An alternative would be considered to have a significant effect on esthetics if changes in landform, vegetation, or structural features create substantially increased levels of visual contrast as compared to surrounding conditions.

No Action Alternative. Under the no action alternative, there would be no effect on esthetics. The views and esthetic quality of both reaches would remain the same.

Construct Levee Improvements

Reach A. Construction of the levee raise in Reach A would temporarily affect the esthetics in the project area. Short-term effects would include the presence and activities of construction equipment and workers in the project area.

Short-term activities would include preparing the site, removing vegetation on the waterside slope of the levee, degrading the top of the levee and the staging area, and constructing the levee raise.

After completion of construction the site would be landscaped consisted with the preconstruction conditions. Although the levee would be permanently higher, the overall raise would be minimal (approximately 1 foot) and the viewshed would not be altered. The reconstructed levee would remain consistent with the preconstruction visual resources of the project area.

Reach B. The effects of construction in Reach B would be comparable to conditions in Reach A. Instead of raising the levee it would be widened. Esthetic effects would be the same as in Reach A, with the exception of the removal of the eucalyptus trees at the upstream end of the reach. The trees are non-native and generally considered

a nuisance due to the considerable amount of leaves, limbs and bark that fall from the trees on a regular basis. The trees will be replaced with native species, such as oaks, which will improve the overall habitat quality within the Parkway. Although oaks are slower growing species and will take considerably longer to achieve the size of the eucalyptus trees, this would still be a temporary effect and would be considered less than significant. The viewshed would not be permanently altered as a result of construction activities.

3.10.3 Mitigation

Mitigation would consist of replacement of the non-native eucalyptus trees with native species. The mitigation ratios would be coordinated with FWS and County Parks. Because there would be no significant long-term effects on esthetics or visual resources in the project area, no mitigation would be required. All areas impacted by the project would be revegetated and restored to remain consistent with preconstruction conditions.

3.11 Cultural Resources

3.11.1 Existing Conditions

Regulatory Setting. Section 106 of the National Historic Preservation Act of 1966 (36 CFR 800) requires Federal agencies, or those they fund or permit, to consider the effects of their actions on the properties that may be eligible for listing or are listed in the National Register of Historic Places. To determine whether an undertaking could affect National Register-eligible properties, cultural resources (including archeological, historical, and traditional cultural properties) must be inventoried and evaluated for listing in the National Register prior to implementation of the undertaking.

CEQA also requires that for public or private projects financed or approved by public agencies, the effects of the projects on historical resources and unique archeological resources must be assessed. Historical resources are defined as buildings, sites, structures, objects, or districts that have been determined to be eligible for listing in the California Register of Historical Resources. Properties listed in the National Register are automatically eligible for listing in the California Register.

As a component of the American River Watershed Project, the Jacob Lane Levee Improvement Project is subject to the stipulations of the 1991 Programmatic Agreement (PA) among the Corps of Engineers, Bureau of Reclamation, California State Historic Preservation Officer, and the Advisory Council on Historic Preservation Regarding Implementation of the American River Watershed Project. The PA requires that the Corps consult with the State Historic Preservation Officer (SHPO) and signatories of the agreement regarding its determinations of eligibility and findings of effect once an alternative has been selected. The American River Parkway Plan also requires preservation and interpretation of archeological and historical resources within the Parkway.

Cultural Setting. The term “Cultural resources” is used to describe several different types of properties: prehistoric and historic archeological sites; architectural properties, such as buildings, bridges, and infrastructure; and resources of importance to Native Americans (traditional cultural properties). Artifacts include any objects manufactured or altered by humans.

Prehistoric archeological sites date to the time before recorded history and in this area of the U.S. are primarily sites associated with Native American use before the arrival of Europeans. Archeological sites dating to the time when these initial Native American-European contacts were occurring are referred to as protohistoric. Historic archeological sites can be associated with Native Americans, Europeans, or any other ethnic group. In the study area, these sites include the remains of historic structures and buildings.

Structures and buildings are considered historic when they are more than 50 years old or when they are exceptionally significant. Exceptional significance can be gained if the properties are integral parts of districts that meet the criteria for eligibility for listing in the National Register or if they meet special criteria considerations.

A traditional cultural property is defined generally as one that is eligible for inclusion in the National Register because of its association with cultural practices or beliefs of a living community that (a) are rooted in that community’s history, and (b) are important in maintaining the continuing cultural identity of the community (Parker and King, n.d.). Although normally associated with Native Americans, traditional cultural properties can include those that have significance derived from the role the property plays in any cultural group’s or community’s historically rooted beliefs, customs, and practices.

Cultural Resources in the Area of Potential Effects (APE). Discussion of cultural resources has been provided in the American River Watershed, California Long-Term Study Final Supplemental Plan Formulation Report/Environmental Impact Statement/Environmental Impact Report, Volume II: Appendix A, Attachment 1, Appendix 1E (Corps, 2002b). This study provided a general overview and background research for cultural resources within the entire American River Watershed Project and did not focus on any particular project component area. The study identified no cultural resources that fall within the Jacob Lane APE.

Records and Literature Search. The area of potential effects (APE) has been surveyed for cultural resources seven times since 1978 for various projects. In 1995 Dames & Moore, Inc. conducted a survey of the Lower America River for the American River Watershed Investigation project. Other surveys have been conducted for the American River Parkway (Peak 1978), Sprint PCS cell towers (Peak 1999) the Western Area Power Administration Transmission Line Corridor (JRP 2001), and most recently a survey for Cingular Wireless, American River Site in 2004 (Losee). All surveys were negative for cultural resources. With the exception of the Losee and Dames & Moore surveys all projects were done pursuant to the California Environmental Quality Act.

The information from the Dames & Moore report was used to obtain clearance under Section 106 of the National Historic Preservation Act on June 17, 1998 for the American River Project, Lower American River Slurry Wall, North Bank.

Field Survey. On April 5, 2008, Corps Archeological staff conducted a survey of the APE for the present remaining sites project. On the following Monday, a Records and Literature search was conducted at CSU, Sacramento. The Corps survey was negative for cultural resources, and the record search was negative as well. In spite of the fact that portions of the American River Levee were recorded, there is no evidence that it is eligible for listing in the National Register of Historic Places.

3.11.2 Environmental Effects

Basis of Significance. An alternative would be considered to have a significant adverse effect on cultural resources if it diminishes the integrity of the resource's location, design, setting, materials, workmanship, feeling, or association. Types of effects include physical destruction, damage, or alteration; isolation or alteration of the character of the setting; introduction of elements that are out of character; neglect; and transfer, lease, or sale.

No Action Alternative. The no-action alternative assumes that no levee improvements would be constructed by the Corps. The cultural resources are expected to remain as described in the existing conditions and there would be no effects to these resources.

Construct Cutoff Levee Improvements. The project, as planned, will not have an effect on properties that are listed in, or are eligible for listing in the National Register of Historic Places. The section of the north levee that was recorded in 1994, and again in 2001 was recommended as ineligible by the site's recorder, JRP Historical Group, Inc. They cited the lack of integrity of the levee due to regular alteration and maintenance during the levee's period of significance of 1955 to 1978.

3.11.3 Mitigation

Inasmuch as there are no cultural resources that will be recommended as eligible for listing in the National Register of Historic Places, no mitigation measures are warranted. The project would have no effect on any other known prehistoric or historic resources.

The possibility exists that potentially significant unidentified cultural remains could be encountered during project construction. If buried or otherwise obscured cultural resources are encountered during construction, activities in the area of the find would be halted, and a qualified archeologist would be consulted immediately to evaluate the find.

Should any potentially significant cultural resources be discovered, compliance with 36 CFR 800.13(b), “Discoveries without prior planning,” would be implemented. Data recovery or other mitigation measures might be necessary to mitigate adverse effects to significant properties. Implementation of Mitigation Measure CUL-MM-1, Compliance With National Historic Preservation Act of 1966, Historic and Archeological Resources Protection Act, and Protection of Historic Properties, would reduce this effect to a less-than-significant level.

4.0 Growth-Inducing Effects

The proposed action alternative would not induce growth in or near the project area. Local population growth and development would be consistent with the draft Sacramento County General Plan (2003a). As mentioned previously, the goal of the proposed action alternative is to construct levee improvements in two reaches along the American River that would meet Corps requirements for levee height and width. In addition, construction, operation, and maintenance of the improved levee would not result in a substantial increase in the number of permanent workers or employees.

5.0 Cumulative Effects

The NEPA regulations and CEQA guidelines require that an EIS/EIR discuss project effects that, when combined with the effects of other projects, result in significant cumulative effects. The NEPA regulations define a cumulative effect as:

“The impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonable foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor or collectively significant actions taken over a period of time” (40 CFR 1508.7).

The CEQA Guidelines require that an EIR discuss cumulative effects “when they are significant” (Section 15130). The CEQA Guidelines define cumulative effects as “two or more individual effects which, when considered together, compound or increase other environmental impacts” (Section 15355). Additionally, the CEQA Guidelines state: “The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to the other closely related past, present, and reasonable foreseeable probable future projects” (Section 15355).

5.1 Local Projects

This section briefly describes other major Federal projects in the Sacramento area. All of these projects are required to evaluate the effects of the proposed project features on environmental resources in the area. In addition, mitigation or compensation measures

must be developed to avoid or reduce any adverse effects to less than significant based on Federal and local agency criteria. Those effects that cannot be avoided or reduced to less than significant are more likely to contribute to cumulative effects in the area.

5.1.1 Long-Term Reoperation of Folsom Reservoir

The current water control manual for Folsom Reservoir requires 400,000 acre-feet of flood storage capacity during the flood season. However, the reservoir is currently operated for additional flood storage capacity through an agreement between the U.S. Bureau of Reclamation and SAFCA. This “interim reoperation” requires a variable flood storage capacity of 400,000 to 670,000 acre-feet, depending on upstream storage conditions. An additional component of the long-term reoperation plan is to reconfigure the penstock intake shutters to improve water temperature control operations. An EIR was prepared by SAFCA for this action (SAFCA, 2000).

A long-term reoperation plan is currently being prepared to update the approved flood control diagram to a variable 400,000 to 600,000 acre-feet of required flood storage capacity. Implementation of this plan will require completion of physical improvements to Folsom Dam's outlet works that will allow more efficient use of the storage space allocated to flood control. SAFCA's EIR included a quantitative analysis of operational changes in this EIR focused on the change from a fixed 400,000 acre-foot flood control diagram to a variable 400,000 to 600,000 acre-foot diagram. The assumptions for this analysis included the completion of the outlet modifications and surcharge storage projects.

5.1.2 Folsom Dam Mini Raise

The Folsom Dam Mini Raise Project was authorized by Congress in 2003. As part of this project, the Corps would raise and strengthen the dam. These components, when combined with the other authorized components of the American River Watershed Project, would reduce the annual probability of flooding in Sacramento from 1 in 90 to 1 in 230. The Mini-Raise Project also includes environmental restoration features for wildlife habitat along the lower American River Parkway. In addition, temperature control shutters at Folsom Dam would be mechanized to improve the regulation of water temperature to increase native salmon and steelhead populations.

5.1.3 Folsom Bridge Project

As part of the Mini-Raise Project authorization, Congress has directed the Corps to construct a new bridge downstream of Folsom Dam Road. Part of the American River Watershed Project, the new bridge will alleviate traffic congestion in downtown Folsom associated with the closure of Folsom Dam Road. The road formerly

accommodated 18,000 vehicles a day. Construction could begin in 2006 and be completed in 2007.

5.1.4 Folsom Dam Advanced Release

The Corps in coordination with the Department of Interior is in the process of updating the Flood Management Plan for Folsom Dam to increase flood protection by altering the timing of flood control releases from the dam, which would take advantage of the increased release capacity generated by the modification of the outlets at Folsom Dam. The flood control release diagram would be based on the Advanced Hydrologic Prediction System of the National Weather Service.

5.1.5 Lower American River Common Features Project

Based on congressional authorizations in 1996 and 1999, the Corps, the Board, and SAFCA have undertaken various improvements to the levees along the north and south banks of the American River and the east bank of the Sacramento River. The most recent improvements include erosion protection at river miles 6.4 left bank, 6.9 left bank, 7.0 right bank, and 10.2 left bank. These sites were completed in December 2004 and provided 100-year flood protection for many Sacramento residents. The Mayhew Levee Raise was added as an authorized component of the American River Common Features project in WRDA 1999 and is under construction in 2008. The Mayhew Drain Closure Structure project was also added as an authorized component of the American River Common Features project in WRDA 1999 and is under construction in 2008.

5.1.6 Sacramento River Bank Protection Project

The Sacramento River Bank Protection Project (SRBPP) was authorized to protect the existing levees and flood control facilities of the Sacramento River Flood Control Project. The SRBPP is a long-range program of bank protection authorized by the Flood Control Act of 1960. The SRBPP directs the Corps to provide bank protection along the Sacramento River and its tributaries, including that portion of the lower American River bordered by Federal flood control project levees. Beginning in 1996, erosion control projects at five sites covering almost 2 miles of the south and north banks of the lower American River have been implemented. Additional sites at RM 149 and 56.7 on the Sacramento River totaling one-half mile have been constructed since 2001. Design for approximately one mile of bank protection in the “Pocket” area of Sacramento is ongoing. This is an ongoing project, and additional sites requiring maintenance will continue to be identified indefinitely until the remaining authority of approximately 30,000 linear feet is exhausted.

These projects would help to improve flood protection to residents in the Sacramento area by ensuring the integrity of the levees along the American and

Sacramento Rivers. The Lower American River Common Features Project and the Sacramento River Bank Protection Project would also help meet FEMA's 100-year flood criteria for the Sacramento area levee system. These would be considered beneficial cumulative effects.

5.2 Cumulative Effects

Land Use

The River Corridor Management Plan and American River Parkway Plan recognize the American River Parkway as the key feature of the American River flood control system in Sacramento, and consider flood management the primary land use on the Parkway. The use of Parkway land to provide flood protection to the Sacramento area is consistent with these plans. As a result, the project is consistent with adopted plans and policies on land use in the project area and would not contribute significantly to cumulative effects on land use.

Recreation

The project would not result in the conversion or removal of natural habitat in the Parkway. The project would remove approximately 40 non-native eucalyptus trees, however, they would be replaced with native oak species. The project would have a minor, short-term restriction on recreation access during construction. This project and other similar past, present, and reasonably foreseeable future projects are not expected to result in changes to recreation access or opportunities on the Parkway and therefore are not expected to result in adverse cumulative effects.

Aesthetics and Visual Resources

The project would result in short-term and long-term changes to the aesthetics in the project area. Non-native eucalyptus trees would be removed during construction of the project and would be replaced with native oak species. All areas that would be disturbed during construction would be restored and revegetated upon completion of construction activities.

The project would temporarily affect local scenic views and contribute to adverse cumulative effects on local aesthetics by removing non-native trees that currently exists along the waterside toe at the upstream end of Reach B. However, due to the large amount of environmental mitigation in the Parkway for this and other similar flood control projects, including the planting and establishment of native trees, shrubs, and grasses, the resulting effect on aesthetics is considered to be significant and unavoidable in the short-term, but is not expected to result in a significant long-term effect. Thus the Jacob Lane Levee Improvement Project would not significantly contribute to cumulative effects in the project vicinity.

Traffic and Circulation

The project would result in changes in the types, volumes, and movement of traffic in the residential area during construction. Large trucks transporting equipment and materials to the work area would not be consistent with the types of residential traffic using the neighborhood streets. These trucks, as well as worker vehicles, would use the neighborhood streets to access the work areas from Arden Way. The daily number of trips during construction would actually vary, depending on the work being conducted and the duration of the work. However, the increases in traffic would not be significant as compared with existing levels of neighborhood traffic on all but one street proposed as part of a haul route. During construction, trucks and worker vehicles would be entering and exiting the residential area via Arden Way, Fair Oaks Boulevard, American River Drive and neighborhood roadways. This could disrupt the traffic flow at these intersections and possibly pose a safety hazard to other motorists, pedestrians, and bicyclists on and along these roadways and access points to the Parkway. Implementation of measures in the Traffic Management Plan would minimize traffic congestion and delays, and ensure public safety. Thus, due to the minimal increase in local traffic, the project would not contribute to adverse cumulative effects on local traffic.

Noise

The project would result in increased levels of ambient noise in the residential area and Parkway during construction. Movement and operation of equipment, haul trucks, and worker vehicles would generate noise in the work area, as well as on neighborhood roadways that provide access through the residential area. Noise levels could reach the high 80's dBA, depending on the type of equipment or truck. Since ambient noise levels normally range in the low to mid-50's dBA, such an increase would be significant. However, the Sacramento County Code, Chapter 6.68 "Noise Control," contains a section specifically exempting construction activities from the standards between the hours of 6:00 a.m. and 8:00 p.m. on weekdays, as well as between the hours of 7:00 a.m. and 8:00 p.m. on Saturdays and Sundays. As a result, the project would not contribute significantly to cumulative effects on local noise.

Air Quality

According to SMAQMD, a project is considered to have a significant cumulative effect if:

- The project requires a change in the existing land use designation (general plan amendment or rezone), and
- Projected emissions (ROG or NOx) or emission concentrations (criteria pollutants) of the proposed project are greater than the emissions anticipated for the site if developed under the existing land use designation.
- The project individually would result in a significant effect on air quality.

Construction of the Jacob Lane Levee Improvement Project is not expected to have any long-term effects on air quality since the operational activities (including inspection and maintenance) are expected to be similar to existing conditions. However, construction would result in direct, short-term effects on air quality mainly related to combustion emissions and dust emissions. Implementation of mitigation measures during construction would reduce emissions to the extent possible. Since the project would not require a change in the existing land use designation, long-term projected emissions of criteria pollutants would be the same with or without the construction of the levee improvements. If the Jacob Lane project is scheduled to be constructed in the fall of 2008 it may overlap with the construction of the Mayhew Levee Raise Project and the Mayhew Drain Closure Structure Project. The Mayhew Levee Raise project identified impacts to air quality that would be significant and unavoidable. The Mayhew Drain Closure Structure will not add significantly to this determination nor will it change the determination. Table 5 shows the combined emissions for the three projects if they were constructed concurrently. No Federal standards would be exceeded and only the SMAQMD threshold for NO_x would be exceeded, however this was already an impact for the Mayhew Levee Raise project. The Jacob Lane project will not add significantly to this determination and it also will not change the determination, therefore, the project would not contribute significantly to cumulative effects on air quality.

Table 5. Combined Estimated Air Emissions for Concurrent Construction of Mayhew Levee Raise, Mayhew Drain Closure Structure and Jacob Lane Levee Improvement Projects

	ROG	NO _x	CO	PM ₁₀
Site Preparation & Construction				
Total emissions (lbs/day)	56	477	340	82
SMAQMD thresholds (lbs/day)	65	85	N/A	N/A
Total (tons/construction project)	1.9	12.7	7.5	6.4
Federal standards (tons/year)	100	100	100	100

ROG = reactive organic gases

NO_x = nitrogen oxides

CO = carbon monoxide

PM₁₀ = particulate matter

SO_x = sulfur oxides

Note: Estimates rounded.

Water Resources and Quality

The Jacob Lane Levee Improvement Project could result in accidental spills or leaks that could affect surface and ground water resources. Measures included during each of the project construction would be implemented to avoid or reduce these effects to less than significant. As a result, the project would not contribute significantly to cumulative effects on water resources and quality.

In addition, the Jacob Lane project may have an overall positive effect on water quality. By diminishing the possibility for a catastrophic flood event, this will avoid significant long term impacts to water quality by avoiding contamination from flooded vehicles, household and industrial chemicals, raw sewage, and other wastes that may be present in the area.

Vegetation and Wildlife

The project would result in the removal of approximately 40 non-native trees. Improved habitat would be provided by planting native oak species as mitigation. The grassland habitat that would be occupied by the staging area and turn-around area would be disturbed during project construction. The waterside slope of the levee would also be disturbed in order to implement the levee improvements. These areas would be restored and revegetated upon completion of project construction. The project would not remove any riparian habitat; however, there would be temporary disturbances to elderberry shrubs and potential disturbances to any beetles potentially occupying the shrubs. The project would result in short-term disturbances of wildlife habitat, but the project will not substantially reduced the connectivity or extent of natural vegetation and wildlife habitat along the American River. Mitigation, through the establishment of native vegetation on the Parkway for this and other projects including the Mayhew Levee Raise Project, cannot eliminate significant short-term effects on vegetation and wildlife associated with construction activities. However, such mitigation is expected to result in a net, long-term improvement in native vegetation and wildlife habitat values in the Parkway primarily by restoring degraded areas at a ratio higher than what was removed.

Special Status Species

The Jacob Lane Levee Improvements Project would result in direct and indirect effects on elderberry plants, which is the host plant for the Federally listed threatened valley elderberry longhorn beetle. However, with the implementation of measures stated previously effects to the elderberry longhorn beetle would be considered less than significant.

Other local projects including the Mayhew Levee Raise Project and the Mayhew Drain Closure Structure Project will result in the removal of elderberry shrubs. The limited spatial extent of elderberry shrub removal, prevalence of existing elderberry shrubs in the project vicinity, and the transplanting of up to 140 shrubs from the Levee Raise Project area to the vicinity, the overall extent and connectivity of beetle habitat is not expected to be diminished by this project. Establishment of new, additional beetle mitigation areas on the Parkway consistent with USFWS Guidelines would result on the long-term net improvement of beetle habitat by increasing habitat extent and connectivity along the American River. While this and other projects have resulted in short-term, localized effects to beetle habitat, the incorporation of habitat mitigation on the Parkway is expected to result in the long-term, cumulative improvement to beetle habitat on the Parkway and ultimately assist in the recovery of the species. As a result, the project would not contribute significantly to cumulative adverse effects on special status species.

Fisheries

Construction of the Jacob Lane Levee Improvement Project could indirectly affect Central Valley steelhead, Winter-run Chinook salmon, and Central Valley Fall/late Fall Run Chinook salmon or their critical habitat. However, the project is not likely to adversely affect steelhead and salmon provided that erosion and sediment control measures implemented as part of the SWPPP are incorporated into the proposed project.

The Jacob Lane Levee Repair Project did not identify any potential impacts to fisheries. Construction activities and staging would be confined to the levees and high flood plain terraces several hundred feet from the streambank and channel. The project includes no work in or near the stream or associated riparian vegetation, and no work in ponds, tributaries, or drainage ditches that flow into the river from the project area. Whereas other local projects may result in potential impacts to fisheries, the construction of the Jacob Lane levee improvements would not contribute significantly to cumulative adverse effects to fisheries.

Cultural Resources

Based on existing information from literature searches and field examination, no cultural resources were identified in the Jacob Lane Levee Improvement Project area. If necessary, mitigation measures would be implemented to provide for any buried resources that might be uncovered during construction. Since the anticipated effects on known and potential archaeological sites would be less than significant, the project would not contribute significantly to cumulative effects on cultural resources.

6.0 Compliance with Environmental Laws and Regulations

6.1 Federal

Archaeological Resources Protection Act of 1979, 16 U.S.C. 470, et seq. *Full Compliance.* This act prohibits the removal, sale, receipt, and interstate transportation of archaeological resources obtained illegally (without permits) from public lands. The proposed project would not involve any such archaeological resources.

Clean Air Act of 1972, as amended, 42 U.S.C. 7401, et seq. *Full compliance.* The proposed action is not expected to violate any Federal air quality standards, exceed the U.S. EPA's general conformity *de minimis* threshold, or hinder the attainment of air quality objectives in the local air basin. Implementation of best management practices would reduce NOx emissions to below local thresholds. Thus, the Corps has determined that the proposed project would have no significant effects on the future air quality of area.

Clean Water Act of 1972, as amended, 33 U.S.C. 1251, et seq. *Full compliance.* The proposed action is not expected to adversely affect surface or ground

water quality or deplete ground water supplies. Best management practices would be implemented to avoid movement of soils or accidental spills into the river. The Corps has determined that the proposed project would have no significant effects on the future water quality of the area.

The contractor would be required to obtain a NPDES permit from the CRWQCB, Central Valley Region, since the project would disturb 1 or more acres of land and involve possible storm water discharges to surface waters. As part of the permit, the contractor would be required to prepare a SWPPP identifying best management practices to be used to avoid or minimize any adverse effects of construction on surface waters.

Endangered Species Act of 1973, as amended, 16 U.S.C. 1531, et seq. *Partial compliance.* In accordance with Section 7(c), the Corps obtained a list of Federally listed and proposed species likely to occur in the project area. The only listed species affected by the project would be the valley elderberry longhorn beetle. The Corps is currently consulting with USFWS to obtain a Biological Opinion (BO).

The Corps as the action agency has made the determination that there would be no effect on any listed species under the jurisdiction of the National Marine Fisheries Service (NMFS). As a result, no formal consultation was required with NMFS under Section 7 of the Endangered Species Act.

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. *Full compliance.* This order directs all Federal agencies to identify and address adverse human health or environmental effects of their programs, policies, and activities on minority and low-income populations. There are no minority, or low-income populations in the project area. All nearby residents would benefit from the proposed project.

Farmland Protection Policy Act (7 U.S.C. 4201, et seq). *Full compliance.* There are no prime and unique farmlands in the project area.

Fish and Wildlife Coordination Act of 1958, as amended, 16 U.S.C. 661, et seq. *Partial compliance.* The Corps is coordinating with FWS to determine the effects on vegetation and wildlife in the project area. The FWS will prepare a Coordination Act Report (CAR) to address these effects.

Migratory Bird Treaty Act (15 U.S.C 701-18h). *Full compliance.* Construction would be timed to avoid destruction of active bird nests or young of birds that breed in the area. If this is not feasible, a qualified biologist would survey the area prior to initiation of construction. If active nests are located, a protective buffer would be delineated and the entire area avoided, preventing disturbance of nests until they are no longer active.

National Environmental Policy Act of 1969, as amended, 42 U.S.C. 4321, et seq. *Partial Compliance.* This EA/IS is in partial compliance with this act. Comments received during the public review period will be incorporated into the EA, as appropriate, and a comments and responses appendix will be prepared and. The final EA will be accompanied by a final FONSI. These actions will provide full compliance with this act.

National Historic Preservation Act of 1966, as amended, 16 U.S.C. 470 et seq. *Partial Compliance.* The project is in partial compliance with Section 106 of the National Historic Preservation Act (36 CFR 800). Corps Archeological staff conducted a survey of the APE for the present remaining sites project. A Records and Literature search was also conducted at CSU, Sacramento. The Corps survey was negative for cultural resources, and the record search was negative as well. In spite of the fact that portions of the American River Levee were recorded, there is no evidence that it is eligible for listing in the National Register of Historic Places.

A letter will be sent to the SHPO asking for their concurrence with a finding of no adverse effect in accordance with 36 CFR 800.4(c)(2).

Native American Graves Protection and Repatriation Act of 1990, 23 U.S.C. 3002. *Full Compliance.* This act requires Federal agencies to (1) establish procedures for identifying Native American groups associated with cultural items on Federal lands, (2) inventory human remains and associated funerary objects in Federal possession, and (3) return such items upon request to the affiliated groups. The law also requires that any discoveries of cultural items covered by the act be reported to the head of the Federal entity, who would notify the appropriate Native Americans group. The proposed action would not involve any such cultural items.

Wild and Scenic Rivers Act of 1968 (16 U.S.C. 1271 et seq.). *Full compliance.* The lower American River has been designated as a “recreational” component of the Federal Wild and Scenic Rivers system. The project would neither adversely affect the resources for which the American River was designated nor adversely affect the river's free-flowing status. All construction activities would be at least 150 to 500 feet away from the river.

6.2 State

California Clean Air Act of 1988. *Full compliance.* The SMAQMD determines whether project emission sources and emission levels significantly affect air quality based on Federal standards established by the U.S. EPA and State standards set by the California Air Resources Board. The project is in compliance with all provisions of the Federal and State Clean Air Acts.

California Endangered Species Act of 1984. *Full compliance.* The California Department of Fish and Game administers this State law providing protection of fish and wildlife resources. This act requires the non-Federal lead agencies to prepare biological assessments if a project may adversely affect one or more State-listed endangered species. No State-listed species would be adversely affected by the project.

California Environmental Quality Act, California Public Resources Code, Section 21000 et seq. *Partial compliance.* This EA/IS is in partial compliance with this act. All comments received during the public review period will be considered and incorporated into the EA/IS, as appropriate. The final EA/IS will be accompanied by a final Negative Declaration. The Central Valley Flood Protection Board as the non-Federal sponsor will ensure full compliance with the requirements of this act.

7.0 Coordination and Review of the Draft EA

The draft EA/IS and FONSI/Negative Declaration will be circulated for 30 days to agencies, organizations and individuals known to have a special interest in the project. Copies of the draft EA/IS will be posted on the SAFCA website made available for viewing at local public libraries, or provided by mail upon request. This project has been coordinated with all the appropriate Federal, State, and local government agencies.

8.0 Findings

This EA/IS evaluated the environmental effects of the proposed project of constructing levee improvements along two reaches of the American River in the Carmichael area. Potential adverse effects to the following resources were evaluated in detail: recreation, special status species, vegetation and wildlife, air quality, water resources and quality, traffic and circulation, esthetics, noise, and cultural resources.

Results of the EA/IS, field visits, and coordination with other agencies indicate that the proposed project would have no significant long-term effects on environmental resources. Short-term effects during construction would either be less than significant or mitigated to less than significance using best management practices.

Based on this evaluation, the proposed project meets the definition of a FONSI as described in 40 CFR 1508.13. A FONSI may be prepared when an action would not have a significant effect on the human environment and for which an environmental impact statement would not be prepared. Therefore, a draft FONSI has been prepared and accompanies this EA.

9.0 List of Preparers

John Suazo
Environmental Manager, Corps of Engineers
16 years environmental management and environmental studies
Report preparation and coordination

Edward Stewart
Biologist, Corps of Engineers
7 years environmental studies
Report preparation

Anne Baker
Student Trainee (Social Science)
Report preparation

10.0 References

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[www.weatherbase.com/weather/weather.php3?s=38427&refer=.](http://www.weatherbase.com/weather/weather.php3?s=38427&refer=)

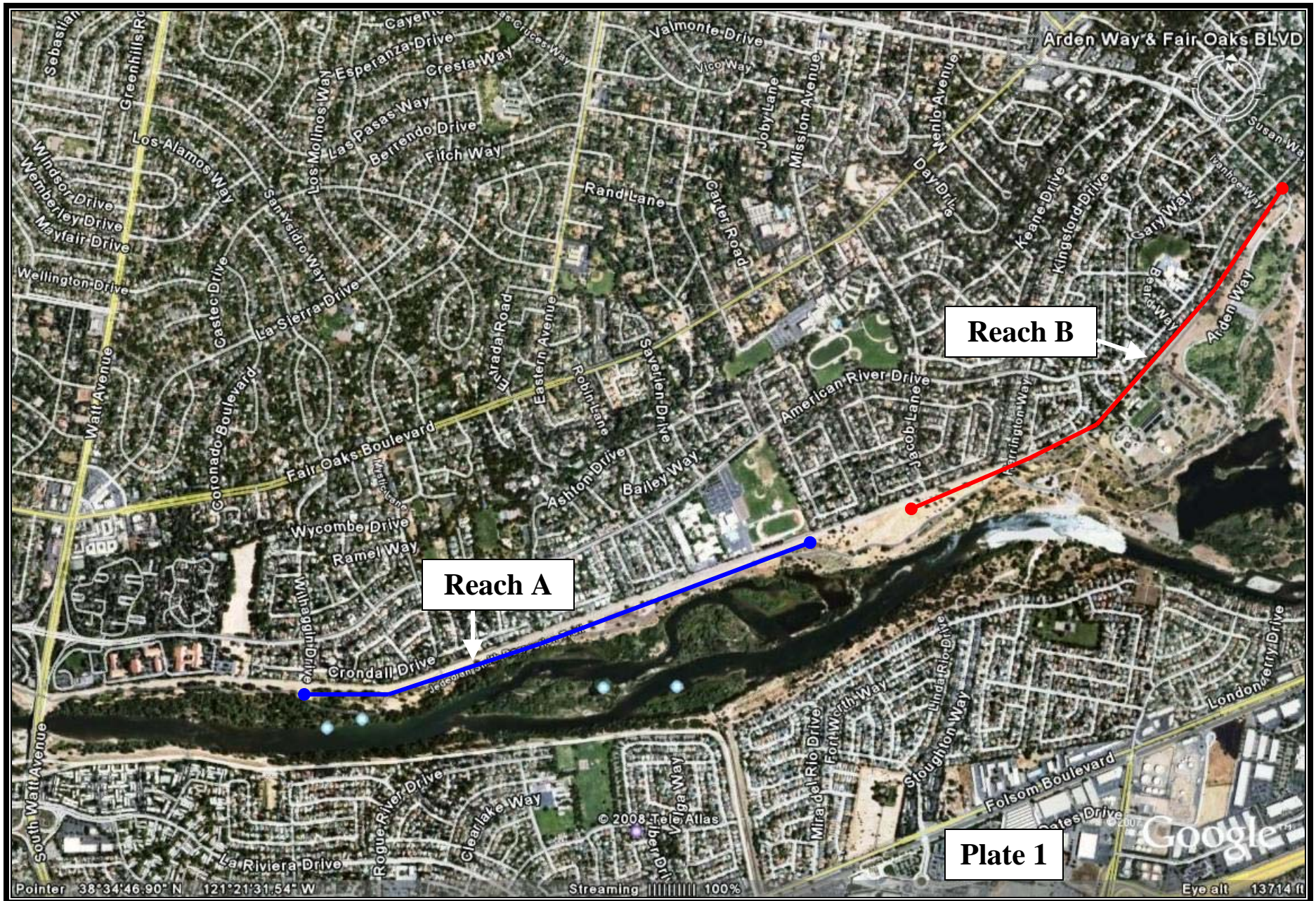
10.2 List of Agencies and Persons Contacted

California State Department of Water Resources: Ms. Annalena Bronson

Sacramento Area Flood Control Agency: Mr. Grant Kreinberg

Sacramento County Regional Parks: Ms. Mary Maret

Plates



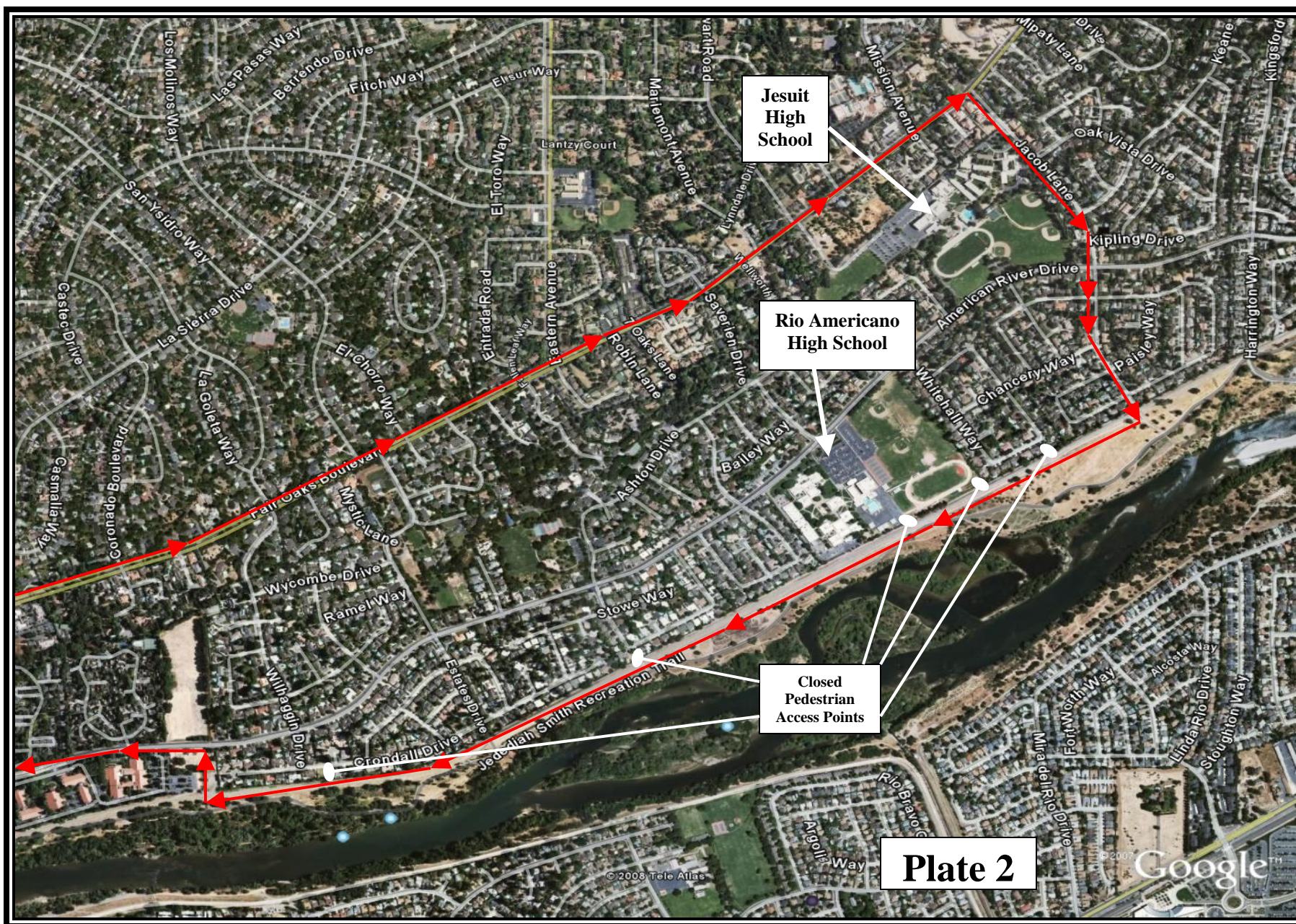
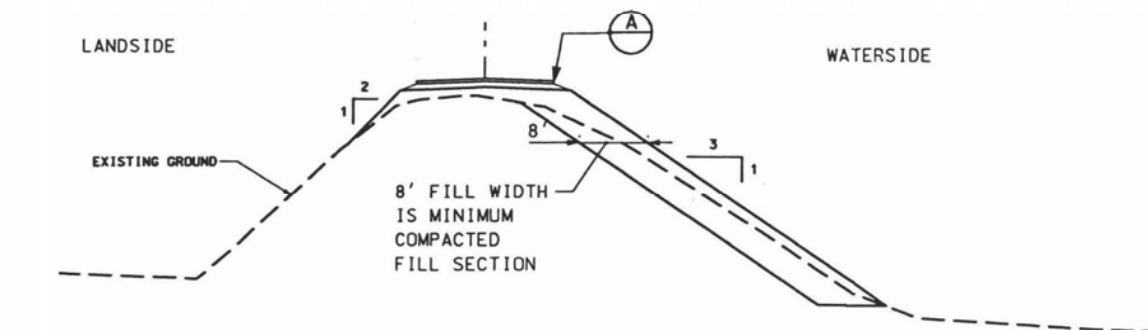


Plate 2

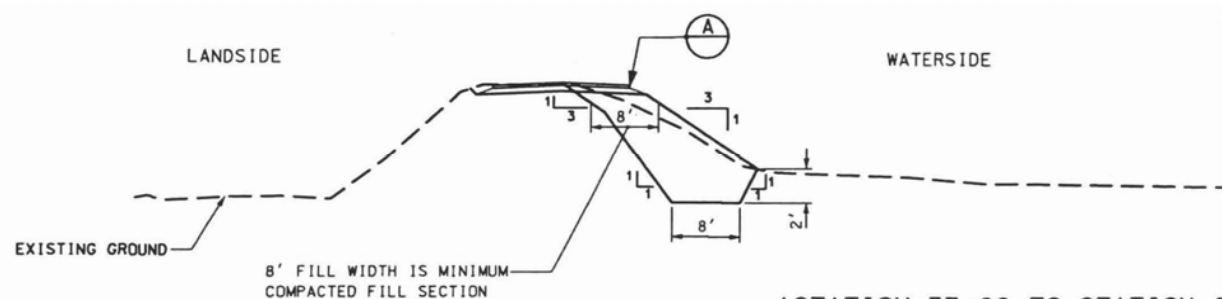




TYPICAL CROSS SECTION REACH A - (LEVEE RAISE)

N.T.S.

8' FILL WIDTH IS MINIMUM
COMPACTED FILL SECTION



TYPICAL CROSS SECTION "TYPE I" REACH B - (LEVEE WIDEN) - (STATION 0+00 TO STATION 25+00)

N.T.S.

(STATION 37+00 TO STATION 63+80.47)

Appendix A

Correspondence Regarding Special Status Species

Sacramento Fish & Wildlife Office
Federal Endangered and Threatened Species
that Occur in or may be Affected by Projects in the
CARMICHAEL (512D)
U.S.G.S. 7 1/2 Minute Quad
Database Last Updated: December 12, 2007
Document Number: 080125043256

Species of Concern - The Sacramento Fish & Wildlife Office no longer maintains a list of species of concern. However, various other agencies and organizations maintain lists of at-risk species. These lists provide essential information for land management planning and conservation efforts. See www.fws.gov/sacramento/es/spp_concern.htm for more information and links to these sensitive species lists.

Red-Legged Frog Critical Habitat - The Service has designated final critical habitat for the California red-legged frog. The designation became final on May 15, 2006. See our [map index](#).

Listed Species

Invertebrates

Branchinecta conservatio

Conservancy fairy shrimp (E)

Branchinecta lynchi

Critical habitat, vernal pool fairy shrimp (X)

vernal pool fairy shrimp (T)

Desmocerus californicus dimorphus

Critical habitat, valley elderberry longhorn beetle (X)

valley elderberry longhorn beetle (T)

Lepidurus packardii

Critical habitat, vernal pool tadpole shrimp (X)

vernal pool tadpole shrimp (E)

Fish

Hypomesus transpacificus

delta smelt (T)

Oncorhynchus mykiss

Central Valley steelhead (T) (NMFS)

Critical habitat, Central Valley steelhead (X) (NMFS)

Oncorhynchus tshawytscha

Central Valley spring-run chinook salmon (T) (NMFS)

winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Ambystoma californiense

California tiger salamander, central population (T)

Rana aurora draytonii

California red-legged frog (T)

Reptiles

Thamnophis gigas

giant garter snake (T)

Plants

Orcuttia tenuis

Critical habitat, slender Orcutt grass (X)

Orcuttia viscida

Critical habitat, Sacramento Orcutt grass (X)

Key:

(E) *Endangered* - Listed (in the Federal Register) as being in danger of extinction.

(T) *Threatened* - Listed as likely to become endangered within the foreseeable future.

(P) *Proposed* - Officially proposed (in the Federal Register) for listing as endangered or threatened.

(NMFS) Species under the Jurisdiction of the National Marine Fisheries Service. Consult with them directly about these species.

Critical Habitat - Area essential to the conservation of a species.

(PX) *Proposed Critical Habitat* - The species is already listed. Critical habitat is being proposed for it.

(C) *Candidate* - Candidate to become a proposed species.

(X) *Critical Habitat* designated for this species

Important Information About Your Species List

How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geological Survey 7½ minute quads. The United States is divided into these quads, which are about the size of San Francisco.

The animals on your species list are ones that occur within, or may be affected by projects within, the quads covered by the list.

- Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.
- Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regardless of whether they appear on a quad list.

Plants

Any plants on your list are ones that have actually been observed in the quad or quads covered by the

list. Plants may exist in an area without ever having been detected there. You can find out what's in the nine surrounding quads through the California Native Plant Society's online [Inventory of Rare and Endangered Plants](#).

Surveying

Some of the species on your list may not be affected by your project. A trained biologist or botanist, familiar with the habitat requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by your project. We recommend that your surveys include any proposed and candidate species on your list.

For plant surveys, we recommend using the [Guidelines for Conducting and Reporting Botanical Inventories](#). The results of your surveys should be published in any environmental documents prepared for your project.

Your Responsibilities Under the Endangered Species Act

All plants and animals identified as listed above are fully protected under the Endangered Species Act of 1973, as amended. Section 9 of the Act and its implementing regulations prohibit the take of a federally listed wildlife species. Take is defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any such animal.

Take may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR §17.3).

Take incidental to an otherwise lawful activity may be authorized by one of two procedures:

- If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a formal [consultation](#) with the Service.

During formal consultation, the Federal agency, the applicant and the Service work together to avoid or minimize the impact on listed species and their habitat. Such consultation would result in a biological opinion by the Service addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.

- If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, then you, the applicant, should apply for an incidental take permit. The Service may issue such a permit if you submit a satisfactory conservation plan for the species that would be affected by your project.

Should your survey determine that federally listed or proposed species occur in the area and are likely to be affected by the project, we recommend that you work with this office and the California Department of Fish and Game to develop a plan that minimizes the project's direct and indirect impacts to listed species and compensates for project-related loss of habitat. You should include the plan in any environmental documents you file.

Critical Habitat

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as critical habitat. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal.

Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife.

If any species has proposed or designated critical habitat within a quad, there will be a separate line for this on the species list. Boundary descriptions of the critical habitat may be found in the Federal Register. The information is also reprinted in the Code of Federal Regulations (50 CFR 17.95). See our [critical habitat page](#) for maps.

Candidate Species

We recommend that you address impacts to candidate species. We put plants and animals on our candidate list when we have enough scientific information to eventually propose them for listing as threatened or endangered. By considering these species early in your planning process you may be able to avoid the problems that could develop if one of these candidates was listed before the end of your project.

Wetlands

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands, please contact Mark Littlefield of this office at (916) 414-6580.

Updates

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be April 24, 2008.

Sacramento Fish & Wildlife Office
Federal Endangered and Threatened Species
that Occur in or may be Affected by Projects in the
SACRAMENTO EAST (512C)
U.S.G.S. 7 1/2 Minute Quad
Database Last Updated: December 12, 2007
Document Number: 080125043411

Species of Concern - The Sacramento Fish & Wildlife Office no longer maintains a list of species of concern. However, various other agencies and organizations maintain lists of at-risk species. These lists provide essential information for land management planning and conservation efforts. See www.fws.gov/sacramento/es/spp_concern.htm for more information and links to these sensitive species lists.

Red-Legged Frog Critical Habitat - The Service has designated final critical habitat for the California red-legged frog. The designation became final on May 15, 2006. See our [map index](#).

Listed Species

Invertebrates

Branchinecta lynchi

vernal pool fairy shrimp (T)

Desmocerus californicus dimorphus

Critical habitat, valley elderberry longhorn beetle (X)

valley elderberry longhorn beetle (T)

Lepidurus packardii

vernal pool tadpole shrimp (E)

Fish

Acipenser medirostris

green sturgeon (T) (NMFS)

Hypomesus transpacificus

Critical habitat, delta smelt (X)

delta smelt (T)

Oncorhynchus mykiss

Central Valley steelhead (T) (NMFS)

Critical habitat, Central Valley steelhead (X) (NMFS)

Oncorhynchus tshawytscha

Central Valley spring-run chinook salmon (T) (NMFS)

Critical Habitat, Central Valley spring-run chinook (X) (NMFS)

winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Ambystoma californiense

California tiger salamander, central population (T)

Rana aurora draytonii

California red-legged frog (T)

Reptiles

Thamnophis gigas

giant garter snake (T)

Key:

(E) *Endangered* - Listed (in the Federal Register) as being in danger of extinction.

(T) *Threatened* - Listed as likely to become endangered within the foreseeable future.

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Critical Habitat - Area essential to the conservation of a species.

(PX) *Proposed Critical Habitat* - The species is already listed. Critical habitat is being proposed for it.

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Take may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR §17.3).

Take incidental to an otherwise lawful activity may be authorized by one of two procedures:

- If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a formal [consultation](#) with the Service.

During formal consultation, the Federal agency, the applicant and the Service work together to avoid or minimize the impact on listed species and their habitat. Such consultation would result in a biological opinion by the Service addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.

- If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, then you, the applicant, should apply for an incidental take permit. The Service may issue such a permit if you submit a satisfactory conservation plan for the species that would be affected by your project.

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Critical Habitat

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Updates

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be April 24, 2008.

California Department of Fish and Game
Natural Diversity Database
Selected Elements by Scientific Name - Landscape
Carmichael Quad Summary

Scientific Name	Common Name	Element Code	Federal Status	State Status	Global Rank	State Rank	CNPS	CDFG
1 <i>Accipiter cooperii</i>	Cooper's hawk	ABNKC12040			G5	S3		SC
2 <i>Actinemys marmorata marmorata</i>	northwestern pond turtle	ARAAD02031			G3G4T3	S3		SC
3 <i>Agelaius tricolor</i>	tricolored blackbird	ABPBXB0020			G2G3	S2		SC
4 <i>Ardea alba</i>	great egret	ABNGA04040			G5	S4		
5 <i>Ardea herodias</i>	great blue heron	ABNGA04010			G5	S4		
6 <i>Athene cunicularia</i>	burrowing owl	ABNSB10010			G4	S2		SC
7 <i>Branchinecta lynchi</i>	vernal pool fairy shrimp	ICBRA03030	Threatened		G3	S2S3		
8 <i>Branchinecta mesoatlantica</i>	midvalley fairy shrimp	ICBRA03150			G2	S2		
9 <i>Buteo regalis</i>	ferruginous hawk	ABNKC19120			G4	S3S4		SC
10 <i>Buteo swainsoni</i>	Swainson's hawk	ABNKC19070		Threatened	G5	S2		
11 <i>Desmocerus californicus dimorphus</i>	valley elderberry longhorn beetle	IICOL48011	Threatened		G3T2	S2		
12 <i>Dumontia oregonensis</i>	A water flea	ICBRA23010			G1G3	S1		
13 <i>Elanus leucurus</i>	white-tailed kite	ABNKC06010			G5	S3		
14 <i>Gratiola heterosepala</i>	Boggs Lake hedge-hyssop	PDSCR0R060		Endangered	G3	S3.1	1B.2	
15 <i>Hydrochara rickseckeri</i>	Ricksecker's water scavenger beetle	IICOL5V010			G1G2	S1S2		
16 <i>Juncus leiostermus</i> var. <i>ahartii</i>	Ahart's dwarf rush	PMJUN011L1			G2T1	S1.2	1B.2	
17 <i>Legenere limosa</i>	legenere	PDCAM0C010			G2	S2.2	1B.1	
18 <i>Lepidurus packardii</i>	vernal pool tadpole shrimp	ICBRA10010	Endangered		G3	S2S3		
19 <i>Lindieriella occidentalis</i>	California lindieriella	ICBRA06010			G3	S2S3		
20 <i>Northern Hardpan Vernal Pool</i>	Northern Hardpan Vernal Pool	CTT44110CA			G3	S3.1		
21 <i>Orcuttia viscida</i>	Sacramento orcutt grass	PMPOA4G070	Endangered	Endangered	G1	S1.1	1B.1	
22 <i>Riparia riparia</i>	bank swallow	ABPAU08010		Threatened	G5	S2S3		
23 <i>Sagittaria sanfordii</i>	Sanford's arrowhead	PMALI040Q0			G3	S3.2	1B.2	
24 <i>Spea hammondi</i>	western spadefoot	AAABF02020			G3	S3		SC
25 <i>Taxidea taxus</i>	American badger	AMAJF04010			G5	S4		SC

Appendix B

Construction Emissions Estimates using the Road Construction Emissions Model Version 5.2

Road Construction Emissions Model, Version 5.2							
Emission Estimates for -> Jacob Lane Reach A					Exhaust	Fugitive Dust	
Project Phases (English Units)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	PM10 (lbs/day)	PM10 (lbs/day)	PM10 (lbs/day)	
Grubbing/Land Clearing	1	7	7	10	0	10	
Grading/Excavation	16	108	116	7	5	3	
Drainage/Utilities/Sub-Grade	0	3	0	3	0	3	
Paving	0	0	0	0	0	0	
Maximum (pounds/day)	16	108	116	10	5	10	
Total (tons/construction project)	0.18	1.25	1.27	0.11	0.05	0.06	<-tons
Notes: Project Start Year ->	2008						
Project Length (months) ->	2						
Total Project Area (acres) ->	8						
Maximum Area Disturbed/Day (acres) ->	2						
Total Soil Imported/Exported (yd ³ /day)->	1505						
PM10 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.							
Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I.							
Emission Estimates for -> Jacob Lane Reach A					Exhaust	Fugitive Dust	
Project Phases (Metric Units)	ROG (kgs/day)	CO (kgs/day)	NOx (kgs/day)	PM10 (kgs/day)	PM10 (kgs/day)	PM10 (kgs/day)	
Grubbing/Land Clearing	0	3	3	5	0	5	
Grading/Excavation	7	49	53	3	2	1	
Drainage/Utilities/Sub-Grade	0	2	0	1	0	1	
Paving	0	0	0	0	0	0	
Maximum (kilograms/day)	7	49	53	5	2	5	
Total (megagrams/construction project)	0.16	1.13	1.16	0.10	0.05	0.05	<-megagrams
Notes: Project Start Year ->	2008						
Project Length (months) ->	2						
Total Project Area (hectares) ->	3						
Maximum Area Disturbed/Day (hectares) ->	1						
Total Soil Imported/Exported (meters ³ /day)->	1151						
PM10 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.							
Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I.							

[illegible]

Drainage/Utilities/Subgrade	Number of Vehicles		ROG	CO	NOx	PM10													
Override of Default Number of Vehicles	Program-estimate	Type	pounds/day	pounds/day	pounds/day	pounds/day													
0		Backhoes	0.00	0.00	0.00	0.00													
0		Bore/Drill Rigs	0.00	0.00	0.00	0.00													
0		Concrete/Industrial Saws	0.00	0.00	0.00	0.00													
0	1	Compactor	0.00	0.00	0.00	0.00													
0		Cranes	0.00	0.00	0.00	0.00													
0		Crawler Tractors	0.00	0.00	0.00	0.00													
0		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00													
0		Dozer	0.00	0.00	0.00	0.00													
0		Excavator	0.00	0.00	0.00	0.00													
0		Forklifts, Rough Terrain	0.00	0.00	0.00	0.00													
0	1	Grader	0.00	0.00	0.00	0.00													
0		Loaders, Rubber Tired	0.00	0.00	0.00	0.00													
0		Off-Highway Trucks	0.00	0.00	0.00	0.00													
0		Other Construction Equip.	0.00	0.00	0.00	0.00													
0		Pavers	0.00	0.00	0.00	0.00													
0		Paving Equipment	0.00	0.00	0.00	0.00													
0		Rollers	0.00	0.00	0.00	0.00													
0	1	Scraper	0.00	0.00	0.00	0.00													
0	3	Signal Boards	0.00	0.00	0.00	0.00													
0		Skid Steer Loaders	0.00	0.00	0.00	0.00													
0		Surfacing Equipment	0.00	0.00	0.00	0.00													
0		Tractors	0.00	0.00	0.00	0.00													
0	1	Trenchers	0.00	0.00	0.00	0.00													
		max pounds per day	0.0	0.0	0.0	0.0													
		tons per period	0.0	0.0	0.0	0.0													
Paving	Number of Vehicles		ROG	CO	NOx	PM10													
Override of Default Number of Vehicles	Program-estimate	Type	pounds/day	pounds/day	pounds/day	pounds/day													
0		Backhoes	0.00	0.00	0.00	0.00													
0		Bore/Drill Rigs	0.00	0.00	0.00	0.00													
0		Concrete/Industrial Saws	0.00	0.00	0.00	0.00													
0		Compactor	0.00	0.00	0.00	0.00													
0		Cranes	0.00	0.00	0.00	0.00													
0		Crawler Tractors	0.00	0.00	0.00	0.00													
0		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00													
0		Dozer	0.00	0.00	0.00	0.00													
1		Excavator	0.02	0.04	0.06	0.01													
0		Forklifts, Rough Terrain	0.00	0.00	0.00	0.00													
1		Grader	0.02	0.04	0.06	0.01													
0		Loaders, Rubber Tired	0.00	0.00	0.00	0.00													
0		Off-Highway Trucks	0.00	0.00	0.00	0.00													
0		Other Construction Equip.	0.00	0.00	0.00	0.00													
0	1	Pavers	0.00	0.00	0.00	0.00													
0	1	Paving Equipment	0.00	0.00	0.00	0.00													
0	1	Rollers	0.00	0.00	0.00	0.00													
0		Scraper	0.00	0.00	0.00	0.00													
0	3	Signal Boards	0.00	0.00	0.00	0.00													
0		Skid Steer Loaders	0.00	0.00	0.00	0.00													
0		Surfacing Equipment	0.00	0.00	0.00	0.00													
0		Tractors	0.00	0.00	0.00	0.00													
0		Trenchers	0.00	0.00	0.00	0.00													
		pounds per day	0.0	0.1	0.1	0.0													
		tons per period	0.0	0.0	0.0	0.0													
Total Emissions (tons per construction period)			0.1	0.5	0.5	0.0													
10																			

[illegible]

Road Construction Emissions Model, Version 5.2								
Emission Estimates for -> Jacob Lane Reach B					Exhaust	Fugitive Dust		
Project Phases (English Units)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	PM10 (lbs/day)	PM10 (lbs/day)	PM10 (lbs/day)		
Grubbing/Land Clearing	1	7	7	10	0	10		
Grading/Excavation	16	108	116	10	5	5		
Drainage/Utilities/Sub-Grade	0	3	0	3	0	3		
Paving	0	0	0	0	0	0		
Maximum (pounds/day)	16	108	116	10	5	10		
Total (tons/construction project)	0.18	1.25	1.27	0.13	0.05	0.08	<-tons	
Notes: Project Start Year -> 2008								
Project Length (months) -> 2								
Total Project Area (acres) -> 8								
Maximum Area Disturbed/Day (acres) -> 2								
Total Soil Imported/Exported (yd ³ /day)-> 1505								
PM10 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.								
Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I.								
Emission Estimates for -> Jacob Lane Reach B					Exhaust	Fugitive Dust		
Project Phases (Metric Units)	ROG (kgs/day)	CO (kgs/day)	NOx (kgs/day)	PM10 (kgs/day)	PM10 (kgs/day)	PM10 (kgs/day)		
Grubbing/Land Clearing	0	3	3	5	0	5		
Grading/Excavation	7	49	53	4	2	2		
Drainage/Utilities/Sub-Grade	0	2	0	1	0	1		
Paving	0	0	0	0	0	0		
Maximum (kilograms/day)	7	49	53	5	2	5		
Total (megagrams/construction project)	0.16	1.13	1.16	0.12	0.05	0.07	<-megagrams	
Notes: Project Start Year -> 2008								
Project Length (months) -> 2								
Total Project Area (hectares) -> 3								
Maximum Area Disturbed/Day (hectares) -> 1								
Total Soil Imported/Exported (meters ³ /day)-> 1151								
PM10 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.								
Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I.								

Road Construction Emissions Model		Version 5.2	
Data Entry Worksheet			
<div>Note: Required data input sections have a yellow background.</div> <div>Optional data input sections have a blue background. Only areas with a yellow or blue background can be modified. Program defaults have a white background.</div> <div>The user is required to enter information in cells C10 through C28.</div>		<div>SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT</div>	
Input Type			
Project Name	Jacob Lane Reach B		
Construction Start Year	2008	Enter a Year between 2000 and 2010 inclusive	
Project Type	1	1 New Road Construction	
		2 Road Widening	
		3 Bridge/Overpass Construction	
Project Construction Time	2	months	
Predominate Soil/Site Type: Enter 1, 2, or 3	2	1. Sand Gravel	
		2. Weathered Rock-Earth	
		3. Blasted Rock	
On-Road Emission Factors: Enter 1, 2, 3, or 4	4	1. Emfac7fv1.1	
		2. Emfac7G	
		3. Emfac2001	
Project Length	1.2	miles	
Total Project Area	8	acres	
Maximum Area Disturbed/Day	2	acres	
Water Trucks Used?	1	1. Yes No	
Soil Imported	1500	yd³/day	
Soil Exported	5	yd³/day	
Average Truck Capacity	6	yd³ (assume 20 if unknown)	
The remaining sections of this sheet contain areas that can be modified by the user, although those modifications are optional.			
<div>Note: The program's estimates of construction period phase length can be overridden in cells C37 through C40.</div>			
		Program	
User Override of		Calculated	
Construction Periods		Construction Months	Months
Grubbing/Land Clearing	0.25	0.15	0.00
Grading/Excavation	1.00	0.68	0.00
Drainage/Utilities/Sub-Grade	0.00	0.45	0.00
Paving	0.25	0.23	0.00
Totals	1.50	1.50	
<div>Hauling emission default values can be overridden in cells C48 through C50.</div>			
Soil Hauling Emissions		User Override of	
User Input	Soil Hauling Defaults	Default Values	
Miles/round trip	15	30	
Round trips/day	250	251	
Vehicle miles traveled/day (calculated)	3750		
Hauling Emissions		ROG	NOx
Emission rate (grams/mile)	0.75	8.63	7.25
Pounds per day	6.2	71.3	59.9
Tons per conctruction period	0.07	0.78	0.66

Worker commute default values can be overridden in cells C62 through C67.																			
	User Override of Worker																		
Worker Commute Emissions	Commute Default Values	Default Values																	
Miles/ one-way trip	20	20			20														
One-way trips/day	2	2			2														
No. of employees: Grubbing/Land Clearing	3	6			3														
No. of employees: Grading/Excavation	10	8			10														
No. of employees: Drainage/Utilities/Sub-Grade	5	8			5														
No. of employees: Paving	0	7			0				40										
	ROG	NOx			CO				PM10										
Emission rate (grams/mile)	0.30				6.25				0.04										
Emission rate (grams/trip)	1.62	0.72			16.13				0.02										
Pounds per day - Grubbing/Land Clearing	0.1	0.0			2.1				0.0										
Tons per const. Period - Grub/Land Clear	0.0	0.0			0.0				0.0										
Pounds per day - Grading/Excavation	0.4	0.1			6.9				0.0										
Tons per const. Period - Grading/Excavation	0.0	0.0			0.1				0.0										
Pounds per day - Drainage/Utilities/Sub-Grade	0.2	0.0			3.5				0.0										
Tons per const. Period - Drain/Util/Sub-Grade	0.0	0.0			0.0				0.0										
Pounds per day - Paving	0.0	0.0			0.0				0.0										
Tons per const. Period - Paving	0.0	0.0			0.0				0.0										
tons per construction period	0.0	0.0			0.1				0.0										
Water truck default values can be overridden in cells C87 through C89 and E87 through E89.																			
Water Truck Emissions		Program Estimate of	User Override of Water	Default Values															
	Number of Water Trucks	Number of Water Trucks	Truck Miles Traveled	Miles Traveled/Day															
Grubbing/Land Clearing - Exhaust	1	1	5	40	5														
Grading/Excavation - Exhaust	1	1	5	40	5														
Drainage/Utilities/Subgrade	0	1	0	40	0														
	ROG	NOx	CO	PM10															
Emission rate (grams/mile)	0.75	8.63	7.25	0.27															
Pounds per day - Grubbing/Land Clearing	0.0	0.1	0.1	0.0															
Tons per const. Period - Grub/Land Clear	0.00	0.00	0.00	0.00															
Pound per day - Grading/Excavation	0.0	0.1	0.1	0.0															
Tons per const. Period - Grading/Excavation	0.00	0.00	0.00	0.00															
Pound per day - Drainage/Utilities/Subgrade	0.0	0.0	0.0	0.0															
Tons per const. Period - Drainage/Utilities/Subgrade	0.00	0.00	0.00	0.00															
Fugitive dust default values can be overridden in cells C104 and C105.																			
Fugitive PM10 Dust	User Override of Max	Default																	
	Acreage/Day	Maximum Acreage/Day	pounds/day	tons/per period															
Fugitive Dust - Grubbing/Land Clearing	2	2	10.0	0.0						3									
Fugitive Dust - Grading/Excavation	1	2	5.0	0.1						3									
Fugitive Dust - Drainage/Utilities/Subgrade	0	2	2.5	0.0						0									

[illegible]

Drainage/Utilities/Subgrade	Number of Vehicles		ROG	CO	NOx	PM10													
Override of Default Number of Vehicles	Program-estimate	Type	pounds/day	pounds/day	pounds/day	pounds/day													
0		Backhoes	0.00	0.00	0.00	0.00													
0		Bore/Drill Rigs	0.00	0.00	0.00	0.00													
0		Concrete/Industrial Saws	0.00	0.00	0.00	0.00													
0	1	Compactor	0.00	0.00	0.00	0.00													
0		Cranes	0.00	0.00	0.00	0.00													
0		Crawler Tractors	0.00	0.00	0.00	0.00													
0		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00													
0		Dozer	0.00	0.00	0.00	0.00													
0		Excavator	0.00	0.00	0.00	0.00													
0		Forklifts, Rough Terrain	0.00	0.00	0.00	0.00													
0	1	Grader	0.00	0.00	0.00	0.00													
0		Loaders, Rubber Tired	0.00	0.00	0.00	0.00													
0		Off-Highway Trucks	0.00	0.00	0.00	0.00													
0		Other Construction Equip.	0.00	0.00	0.00	0.00													
0		Pavers	0.00	0.00	0.00	0.00													
0		Paving Equipment	0.00	0.00	0.00	0.00													
0		Rollers	0.00	0.00	0.00	0.00													
0	1	Scrapper	0.00	0.00	0.00	0.00													
0	2	Signal Boards	0.00	0.00	0.00	0.00													
0		Skid Steer Loaders	0.00	0.00	0.00	0.00													
0		Surfacing Equipment	0.00	0.00	0.00	0.00													
0		Tractors	0.00	0.00	0.00	0.00													
0	1	Trenchers	0.00	0.00	0.00	0.00													
		max pounds per day	0.0	0.0	0.0	0.0													
		tons per period	0.0	0.0	0.0	0.0													
Paving	Number of Vehicles		ROG	CO	NOx	PM10													
Override of Default Number of Vehicles	Program-estimate	Type	pounds/day	pounds/day	pounds/day	pounds/day													
0		Backhoes	0.00	0.00	0.00	0.00													
0		Bore/Drill Rigs	0.00	0.00	0.00	0.00													
0		Concrete/Industrial Saws	0.00	0.00	0.00	0.00													
0		Compactor	0.00	0.00	0.00	0.00													
0		Cranes	0.00	0.00	0.00	0.00													
0		Crawler Tractors	0.00	0.00	0.00	0.00													
0		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00													
0		Dozer	0.00	0.00	0.00	0.00													
1		Excavator	0.02	0.04	0.06	0.01													
0		Forklifts, Rough Terrain	0.00	0.00	0.00	0.00													
1		Grader	0.02	0.04	0.06	0.01													
0		Loaders, Rubber Tired	0.00	0.00	0.00	0.00													
0		Off-Highway Trucks	0.00	0.00	0.00	0.00													
0		Other Construction Equip.	0.00	0.00	0.00	0.00													
0	1	Pavers	0.00	0.00	0.00	0.00													
0	1	Paving Equipment	0.00	0.00	0.00	0.00													
0	1	Rollers	0.00	0.00	0.00	0.00													
0		Scrapper	0.00	0.00	0.00	0.00													
0	2	Signal Boards	0.00	0.00	0.00	0.00													
0		Skid Steer Loaders	0.00	0.00	0.00	0.00													
0		Surfacing Equipment	0.00	0.00	0.00	0.00													
0		Tractors	0.00	0.00	0.00	0.00													
0		Trenchers	0.00	0.00	0.00	0.00													
		pounds per day	0.0	0.1	0.1	0.0													
		tons per period	0.0	0.0	0.0	0.0													
Total Emissions (tons per construction period)			0.1	0.5	0.5	0.0													
10																			

[illegible]

Appendix C

Correspondence Regarding Cultural Resources



DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
1325 J STREET
SACRAMENTO, CALIFORNIA 95814

REPLY TO
ATTENTION OF

Environmental Resources Branch

MAY 02 2007

Milford W. Donaldson
State Historic Preservation Officer
Office of Historic Preservation
California State Department of Parks and Recreation
P.O. Box 942896
Sacramento, California 94296-0001

Dear Mr. Donaldson,

The US Army Corps of Engineers, Sacramento District (Corps), is writing with regard to an environmental assessment we are preparing for the proposed levee raise and widening project along the north levee of the American River between Watt Avenue and Arden Way in Sacramento County. The project entitled the Water Resources Development Act 1999, Remaining Sites Study (RSS) is designed to provide flood control; on two levee reaches, A and B, that were bypassed in the 1998 American River Project, Lower American River Slurry Wall project. Reach A will require raising the levee about 1 foot for a total length of 7,000 linear feet. The raise will be from River Mile 10.00 to River Mile 11.10. Reach B will require widening the levee crown of 6,400 linear feet from about 16 ft to 20 ft wide. The Study's name "Remaining Sites" refers to our requirement to complete levee protection that was initiated in 1998. The Study is an unfinished component of the American River Watershed Common Features California Project.

Due to the fact that this project has been advanced as a priority levee repair project, and the small scale of it, we are requesting an expedited review pursuant to 36 CFR 800.3(g). At this time we are initiating consultation under Section 106 of the National Historic Preservation Act by notifying you of the proposed undertaking pursuant to 36 CFR 800.3(a), determination and documentation of the area of potential effects (APE) pursuant to 36 CFR 800.4(a), and 36 CFR 800.4(d)(1) No historic properties affected. The Corps has been in consultation with your office on the earlier slurry wall project. We received a concurrence with our determination of no historic properties affected in a letter dated June 17, 1998 (enclosure 1). Your file number for that American River project is COE900711G.

The APE for the two levee reaches is located directly north of the American River Parkway on the north levee between Arden Way on the east end, and Wilhaggin Drive on the west. The two Reaches are not contiguous. There is an unaffected area between the eastern boundary of Rio Americano High School and Jacobs Lane. The precise location is on an unsectioned part of the Carmichael, CA 1992 7.5 Minute U.S.G.S. topographic quadrangle in T. 8, 9N. R 6E (enclosure 2, figure 1). The APE is possibly located in part of the old Rancho Rio De Los Americanos land grant. The APE for Reach A which is the levee raise will be confined to the existing basal width of the levee. The levee raise will not require any taking

of additional land. The widening of the levee in Reach B will require an additional six feet on the water side of the levee. The stretch of Reach B which parallels the boundaries of the water treatment plant/County sheriff's training facility will not be affected (see enclosure 2, figure 1).

The archeology survey of the APE for both reaches was conducted on Saturday, April 5, 2008 by Corps Archaeologist, Mr. Richard Perry. Due to the urgency of the project, the records and literature search was done the following Monday by Mr. Daniel Bell at the North Central Information Center at Cal State University, Sacramento. The search showed that the APE has been surveyed six times for various projects including the earlier survey for the American River Watershed Investigation, cellular towers, and the American River Park Way Trail. In 1995 Dames & Moore (D&M) surveyed the lower American River Locality for the American River Watershed Investigation. The D&M survey team recorded the American River north levee as CA-SAC-481-H. In 2001 and again in 2002, JRP Historical Consulting Services (JRP) updated the site form for two projects for the Western Area Power Administration (enclosure 3). Both the survey and the record search showed that the APE is negative for National Register of Historic Places (NRHP) eligible properties. A copy of the survey report is enclosed for your review (enclosure 2).

JRP completed an extremely detailed site form that is 10 pages long with a complete history of the levee system dating back to the late 1920s. The form suffices as a standalone report detailing information regarding formation of the Central Valley Project, and the construction history of the levee system. The record form also provided a recommendation of non-eligibility of the levee. On page 2, the authors state:

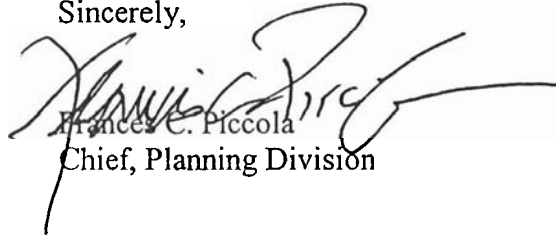
....While they form an important part of the flood control system for the City of Sacramento, and portions of them were built more than fifty years ago, they have been substantially altered in the following years. The levees currently in place were built between 1955 and 1979, and have been regularly maintained and strengthened after flood events. Because of these alterations and maintenance, they do not have integrity for their period of significance-the years between the original construction and 1952 (an arbitrary date fifty years ago). They cannot, therefore, be recommended as eligible for listing in the National Register of Historic Places.

We have reviewed all the documentation regarding the potential for NRHP eligibility of the American River North Levee, CA-SAC-481-H, and concluded that it is not eligible for listing in the NRHP. We concur with JRP's evaluation that the levee fails to meet the criteria for integrity of design, and the feeling, and association are greatly diminished with recent development on either side of the levee, that the levee fails to meet the standards for inclusion in the NRHP under criterion a. Additionally, the pedestrian survey of the APE was negative for archeological materials. Therefore, we have determined that pursuant to 36 CFR 800.4(d)(1), the

American River Levee CA-SAC-481-H is not eligible for listing in the NRHP, and have determined that the RSS project as planned will have no effect on properties that are eligible for, or are listed in the NRHP.

We request that you concur with our determinations of APE, eligibility, and effect for the proposed RSS project. Please review the enclosed information and provide your comments, if any, and concurrence with our determinations. As mentioned above, we are requesting an expedited review as the project has been identified as a priority project by the District Engineer in the interest of public safety. We need to have the construction contract awarded before the end of August of this year. We are looking forward to your reply. If you have any questions or comments, please contact Mr. Richard Perry, Archeologist, at (916) 557-5218, or by email at richard.m.perry@usace.army.mil. Please contact Ms. Jennifer Mijares, Project Manager, at (916) 557-5103 with any specific project questions.

Sincerely,



Frances C. Piccola
Chief, Planning Division

Enclosures